



**SCHOOL OF PSYCHOLOGY**  
**DOCTORATE IN CLINICAL PSYCHOLOGY**  
**MAJOR RESEARCH PROJECT**

**Title:** Overcontrolled Tendencies in Refractory Depression compared to Acute Non-Chronic Depression; The Importance of Treating Maladaptive Personality Style

**Trainee Name:** Georgina Taylor

**Supervisors –**

**Primary:** Professor Tom Lynch, University of Southampton

**Secondary:** Dr Roelie Hempel, University of Southampton

Dr Heather O'Mahen, University of Exeter

**Target journal:** Journal of Abnormal Psychology

**Word Count:** Literature Review – 3982

Manuscript – 7973

Expanded Appendices - 1213

Dissemination Plan – 152

“This work has been submitted in partial fulfilment of a Doctoral degree in Clinical Psychology”.

## List of Contents

|   |            |
|---|------------|
| <b>Copy of Instructions for Authors.....</b>                  | <b>1</b>   |
| <b>Literature Review.....</b>                                 | <b>4</b>   |
| Introduction to Topic Area.....                               | 4          |
| Rationale/Current Research Limitations.....                   | 5          |
| Treatment Resistant Depression and Personality Disorders..... | 6          |
| Temperamental Affectivity and Self-Regulation.....            | 8          |
| Self-Regulatory Capacity and Psychological Functioning.....   | 14         |
| Addressing the Clinical Issue of Control.....                 | 16         |
| Conclusions.....  | 17         |
| Search Strategy.....  | 18         |
| References.....   | 19         |
| <b>Manuscript.....</b>  | <b>24</b>  |
| Abstract.....   | 24         |
| Introduction.....   | 25         |
| Method.....   | 30         |
| Results.....  | 41         |
| Discussion.....   | 47         |
| <b>References.....</b>  | <b>53</b>  |
| <b>Appendices.....</b>  | <b>60</b>  |
| Appendix A – Neuroregulatory Model.....                       | 60         |
| Appendix B – Measures.....                                    | 61         |
| Appendix C – Ethics Documentation.....                        | 80         |
| Appendix D – Expanded Method.....                             | 103        |
| Appendix E – Expanded Results.....                            | 104        |
| <b>Dissemination Statement.....</b>                           | <b>108</b> |

## Copy of Instructions for Authors

### Types of Articles

Most of the articles published in the *Journal of Abnormal Psychology* are reports of original research, but other types of articles are acceptable.

- Short Reports of replications or of failures to replicate previously reported results are given serious consideration.
- Comments on articles published in the journal are also considered.
- Case Studies from either a clinical setting or a laboratory will be considered if they raise or illustrate important questions that go beyond the single case and have heuristic value.
- Manuscripts that present or discuss theoretical formulations of psychopathology, or that evaluate competing theoretical formulations on the basis of published data, may also be accepted.

The *Journal of Abnormal Psychology* publishes articles on basic research and theory in the broad field of abnormal behaviour, its determinants, and its correlates.

The following general topics fall within its area of major focus:

- psychopathology - its aetiology, development, symptomatology, and course
- normal processes in abnormal individuals
- pathological or atypical features of the behaviour of normal persons
- experimental studies, with human or animal subjects, relating to disordered emotional behaviour or pathology
- sociocultural effects on pathological processes, including the influence of gender and ethnicity
- tests of hypotheses from psychological theories that relate to abnormal behaviour

Thus, studies of patient populations, analyses of abnormal behaviour, case histories, and theoretical papers of scholarly substance on deviant personality and emotional abnormality would all fall within the boundaries of the journal's interests.

Each article should represent a significant addition to knowledge and understanding of abnormal behaviour in its aetiology, development, or description.

Articles of five different types will be considered for publication in the Journal: Brief Reports, Regular Articles, Extended Articles, Case Studies, and Commentaries.

- Brief Reports must not exceed 5,000 words in overall length. This limit includes all aspects of the manuscript (title page, abstract, text, references, tables, author notes and footnotes, appendices, figure captions) except figures. Brief Reports also may include a maximum of two figures. For Brief Reports, the length limits are exact and must be strictly followed.
- Regular Articles typically should not exceed 9,000 words in overall length (excluding figures).
- Extended Articles are published within regular issues of the *Journal* (they are not free-standing) and are reserved for manuscripts that require extended exposition beyond the normal length restrictions of a Regular Article. Typically, Extended Articles will report multiple experiments, multifaceted longitudinal studies, cross-disciplinary investigations, or studies that are extraordinarily complex in terms of methodology or analysis. Any submission that exceeds a total of 12,000 words in length automatically will be considered for publication as an Extended Article.
- Case Studies and Commentaries have the same length requirements as Brief Reports.

### **Manuscript Preparation**

Prepare manuscripts according to the *Publication Manual of the American Psychological Association* (6<sup>th</sup> edition). Manuscripts may be copyedited for bias-free language (see Chapter 3 of the *Publication Manual*).

Review APA's Checklist for Manuscript Submission before submitting your article.

Double-space all copy. Other formatting instructions, as well as instructions on preparing tables, figures, references, metrics, and abstracts, appear in the *Manual*.

## **Abstract and Keywords**

All manuscripts must include an abstract containing a maximum of 250 words typed on a separate page. After the abstract, please supply up to five keywords or brief phrases.

## **References**

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

### **Journal Article:**

Herbst-Damm, K. L., & Kulik, J. A. (2005). Volunteer support, marital status, and the survival times of terminally ill patients. *Health Psychology, 24*, 225–229. doi: 10.1037/0278-6133.24.2.225

### **Authored Book:**

Mitchell, T. R., & Larson, J. R., Jr. (1987). *People in organizations: An introduction to organizational behavior* (3rd ed.). New York, NY: McGraw-Hill.

### **Chapter in an Edited Book:**

Bjork, R. A. (1989). Retrieval inhibition as an adaptive mechanism in human memory. In H. L. Roediger III & F. I. M. Craik (Eds.), *Varieties of memory & consciousness* (pp. 309–330). Hillsdale, NJ: Erlbaum.

## **A Critical Review of the Literature that relates Temperament and Self-Control to Psychopathology**

### **Introduction to the Topic Area**

Treatment Resistant Depression (TRD) is a major public health problem that poses significant costs to society and an individual's health and wellbeing (Moussavi, Chatterji, Verdes, Tandon, Patel, & Ustun, 2007). The severity of the problem is highlighted by a projection made by the World Health Organisation that suggests by 2020 depression will be the second most frequent cause of disability worldwide (Murray & Lopez, 1997). TRD can be defined as depression that does not respond to available treatments and it is associated with poor medium to long-term outcomes for clients. Lynch, Hempel and Clark (in press) propose that existing psychosocial treatments are ineffective because they fail to take into account the high rate of comorbidity with certain Personality Disorders (PD). Indeed, evidence suggests that chronically depressed individuals display maladaptive coping styles that are characteristic of emotionally constricted PDs (Riso et al., 2003). Lynch, Hempel and Clark assert that these coping styles may interfere with treatments for an individual's depressive symptoms.

Based on their assertion and existing literature, Lynch, Hempel and Clark have developed a theoretically derived and targeted therapy for the treatment of TRD and chronic depression. This intervention is based on an untested, integrated model of psychopathology, which proposes that individual differences in Self-Regulatory Capacity<sup>1</sup> (SRC) mediate the effect of Temperamental Affectivity and Sociobiographic History (e.g., early childhood experiences) on psychological functioning (Lynch, Barnsley, Hempel & Clark in prep; see Appendix A). This innovative model is unique because unlike most research examining

---

<sup>1</sup> Within the literature, SRC is also referred to as self-control and coping styles (e.g., Baumeister, Heatherton & Tice, 1994). For ease of interpretation and consistent with Lynch, Barnsley, Hempel and Clark's work (in prep), throughout this review this construct will be referred to as SRC.

temperamental influences on the development of psychopathology it considers the potential mediating effect of individual differences in self-regulatory capacity (Bijttebier, Beck, Claes & Vandereycken (2009) and has been used as a rationale for the development of a new therapeutic intervention. Thus, despite the implicit interest and value in this novel therapy the model underpinning it has not been explored or empirically tested and is being used in a clinical trial before being validated. As such, the focus of the current review is twofold: First, in order to gain a clear rationale for the development of this novel intervention, a critical analysis of the literature that relates to and explains the development of the model underpinning it will be provided and second, implications of the model will be discussed.

### **Rationale/Current Research Limitations**

To date, there are three interrelated problems with existing research on TRD and chronic depression. First, existing research into the treatment of TRD is not only limited but has severe methodological weaknesses. This was highlighted in a recent review of psychotherapy for TRD (McPherson, Cairns, Carlyle, Shapiro, Richardson & Taylor D, 2005) which highlighted that of the 12 existing studies; only four were controlled but had inadequate statistical power to detect key effects. Second, researchers have failed to adopt a consistent definition of TRD which has resulted in clinical studies varying in their interpretation of the concept. As a result, the majority of trials have excluded patients with comorbid personality disorder, suicidal behaviour, prior psychotherapy treatment, or frequent relapse which not only restricts the legitimacy of current research but means that most patients who would be classified as treatment-resistant by practitioners are not included in rigorous studies (Lynch, Hempel, Clark in press.) Third, most current treatments including treatment guidelines (e.g., the National Institute for Health and Clinical Excellence [NICE], 2007) focus on acute unipolar depression and fail to account for the differences in the

aetiology and persistence of TRD or chronic depression. Consequently, there are few promising candidates for the effective treatment of TRD or chronic forms of depression. These problems highlight the need for further research if effective treatment interventions for more recurrent and chronic courses of depression are to be developed.

In addition, there appear to be considerable omissions in the research of PDs. Thus far, a large proportion of PD research has focused on the Cluster B, undercontrolled PDs, such as Borderline and Antisocial PDs (Clark, 2005; Linehan, 1993). This is despite strong evidence that more over-controlled PDs (e.g., Obsessive-Compulsive PD) figure prominently in poor treatment responses (Fournier et al., 2008).

Up to now, PDs have been defined categorically but a change in current thinking is leading towards a more dimensional conceptualisation. Prior research has relied on categorical methods to define personality dysfunction (such as those defined by the Diagnostic and Statistical Manual [DSM IV-TR]; American Psychological Association, 1980), thereby creating arbitrary and unstable boundaries between normal and abnormal functioning while failing to account for high heterogeneity among persons sharing the same categorical diagnosis or high rates of diagnostic comorbidity (Widiger & Trull, 2007). Given that the DSM-V research agenda is currently advocating a dimensional approach toward PD over a categorical one (Clark, 2005), research using novel, dimensional categorisations of personality functioning should be encouraged.

Although empirical studies investigating the relationship between parent temperament and behaviour on a child's social functioning are well documented (e.g. Calkins & Fox, 2002; Eisenberg et al., 1993), there is limited research investigating how sociobiographic history may interact with an individual's temperament to influence pathology (e.g., psychological distress, social functioning deficits etc.) Additionally, the mediating effect of individual differences in self-control is often ignored in research examining temperamental influences



on psychopathologies (Bijttebier et al., 2009). Greater understanding of the underlying causes of psychopathology and the contribution of individual differences in these will permit interventions to be targeted more effectively.

### **Treatment Resistant Depression and Personality Disorders**

Important differences between acute, chronic and treatment-resistant forms of unipolar depression exist. For example, TRD is depression that does not respond to adequate intervention, whereas the duration of chronic depression exceeds two years. As a result, TRD and chronic depression are likely to crossover, with many individuals meeting diagnostic criteria for both. Critically, they both reflect a course of depression that does not respond effectively to treatment<sup>2</sup>. Indeed, recent evidence indicates that only a minority of individuals treated with antidepressant medication (ADM) – the leading intervention – for a major depressive disorder achieve full remission (e.g., 30 – 40%; Berlim & Turecki, 2007).

Identified risk factors for developing chronic depression include childhood adversity, environmental stress, and heightened stress reactivity (Riso et al. 2003). An estimated 40–60% of unipolar depressed patients meet criteria for comorbid PD, with even higher rates among those with chronic or TRD (e.g., Riso, Miyatake & Thase, 2002). Indeed, unpublished clinical data from Lynch, Hempel and Clark (in press) suggest that more than 60% of patients with a diagnosis of TRD have a type of PD. Evidence indicates that the most common types of PD among TRD individuals are Cluster-A (paranoid PD) and Cluster-C (obsessive-compulsive and avoidant PD; Fournier, DeRubeis, Shelton, Hollon, Amsterdam & Gallop, 2009). Cluster-C personality disorders were, however, the most predictive of chronic depression at follow-up in individuals with long-standing depressive symptomatology (Hayden & Klein, 2001).

---

<sup>2</sup> Although the focus of this review is on TRD, it is understood that many of these individuals will have co-morbid chronic depression.

Lynch, Hempel and Clark (in press) propose that prior psychosocial therapies for TRD and chronic depression have been ineffective because they do not target key features of personality which are known to disrupt treatment (Fournier, DeRubeis, Shelton, Hollon, Amsterdam & Gallop, 2009). For example, research by Riso et al., (2003) confirmed that individuals with chronic depression exhibit a number of maladaptive coping styles that are characteristic of emotionally constricted PDs, including: self-criticism; impaired autonomy; rigid internalised expectations; excessive control of spontaneous emotion; and inordinate fears of making mistakes. It is these overcontrolled coping styles in individuals with TRD that Lynch, Hempel and Clark propose interfere with existing methods of treatment for their depressive symptoms. As such, they propose that targeting features of overly regulated PDs that accompany depression could improve success rates and long-term prognosis. This evidence indicates that TRD and chronic depression are strongly associated with maladaptive coping styles that are characteristic of overcontrolled PDs. These disorders are not only prevalent but challenging to sufferers, problematic to treat, understudied and poorly understood relative to other disorders such as acute depression and Cluster B PDs (McCullough & James, 2000).

In summary, the aforementioned literature describes the relationship between TRD and coping styles characteristic of overcontrolled PDs and the linked assertions made by Lynch, Barnsley, Hempel and Clark (in prep.) Their model proposes that individual differences in Self-Regulatory Capacity (SRC [coping]) mediate the relationship between Temperamental Affectivity (nature) and Sociobiographic History (e.g., early childhood experiences [nurture]) on psychological functioning (Lynch, Barnsley, Hempel & Clark, in prep; see Appendix A). Critically, it indicates how individual differences in personality, temperament and early childhood experiences can interact and result in psychological distress. The theories that have led to this assertion will be reviewed below.

## **Temperamental Affectivity and Self-regulation**

The Reinforcement Sensitivity Theory (RST; Gray, 1970) is a neuropsychological theory of personality that comprises three major systems of emotion: The Fight-Flight System (FFS) sensitive to unconditioned aversive stimuli; the Behavioural Activation System (BAS) sensitive to appetitive (desirable) stimuli; and the Behavioural Inhibition System (BIS) sensitive to conditioned aversive stimuli. An Individual is believed to differ in their sensitivity and threshold to each of these systems, each of which manifests as a different style of behavioural response. The theory suggests that it is these differences that lead to variations in personality. For instance, individuals who are more sensitive to appetitive stimuli are likely to be higher in BAS and have a tendency towards more impulsive behaviours, whereas individuals high in BIS are likely to have a tendency for withdrawal and avoidance (Gray, 1970).

A significant revision to the RST included the addition of 'freeze' behaviour to the existing FFS system, now termed FFFS (McNaughton & Gray, 2000). As a result, the FFFS is sensitive to all aversive stimuli, both conditioned and unconditioned. A further advancement indicates that extreme activation of the BIS results in worry and rumination (McNaughton & Gray, 2000). A substantial evidence base supports the principles of the RST (see Corr, 2004 for a review) Overall, the evidence supports the central importance of reinforcement/motivational processes in personality (c.f. Carver, Sutton & Scheier, 2000).

Block and Block (1980) identified a construct which they termed ego control; the involuntary inhibition or expression of impulse. A second construct, ego resiliency, was also identified and was defined as the capacity to contextually manipulate one's level of ego-control in response to incoming stimuli. Although similar, the constructs differ depending on the level of consciousness in the individual's regulation; ego control is a subconscious

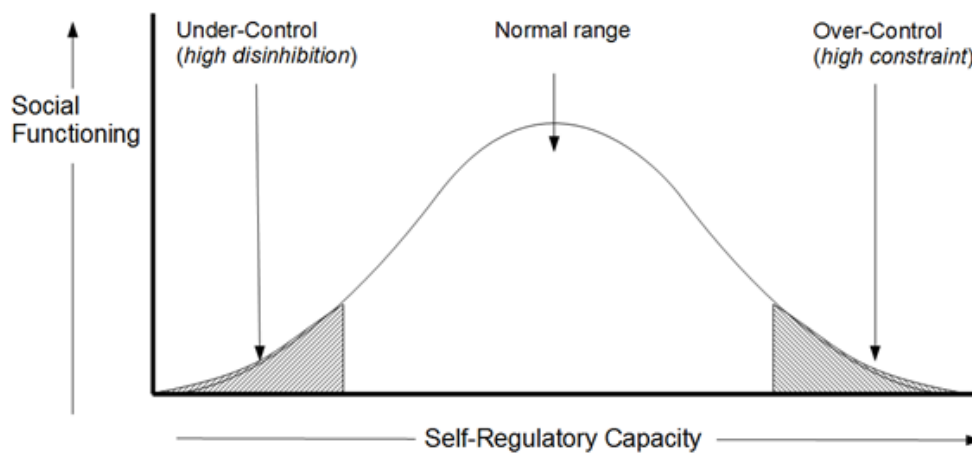
regulation of emotion whereas ego resiliency is performed at a conscious level. Block and Block's dimensional theory of ego control states that individuals vary in their level of ego control from overcontrolled (highly inhibited individuals) to undercontrolled (highly expressive or disinhibited individuals). A number of empirical studies have supported the assertion that overcontrol is an adaptive personality style and undercontrol is maladaptive (e.g. Metcalfe & Mischel, 1999; Tangney, Baumeister & Boone, 2004). For example, Muris et al. (2008) found that higher effortful control (i.e., Block & Block's ego resiliency) was negatively related to psychopathology and Zhou, Main and Wang (2010) found that effortful control positively predicted social competence. Furthermore, Lengua et al. (2008) indicated that lower effortful control was related to an increase in both internalising and externalising disorders.

More recently, Clark (2005) proposed a two affect-systems model – Positive Affectivity (PA) and Negative Affectivity (NA) – and a third, non-affective, self-regulatory system, Disinhibition versus Constraint (DvC). This model was intended to account for the relationship between personality and the development of psychopathology. In relation to Gray and McNaughton's theory, PA is comparable to BAS (approach) and NA to FFFS (avoidance; Sagarra et al., 2007). As such, BAS/PA is responsible for mediating reactions to all desirable stimuli and the associated personality comprises a cluster of optimism, reward-orientation and sensation-seeking (Corr, 2004). Conversely, FFFS/NA is responsible for mediating reactions to aversive stimuli, governing avoidance and escape behaviour and the associated personality comprises a combination of fear-proneness and avoidance (Corr, 2004). It should be noted that PA and NA are not related to each other; therefore, it is possible for an individual to be high in both PA and NA.

The non-affective system, DvC/BIS, is predicted to play a fundamental role in the extent to which incoming stimuli are subjected to its inhibitory influence. Individuals can

over-inhibit or under-inhibit their emotional response to incoming stimuli and are described as overcontrolled or undercontrolled, respectively. In accordance with Clark's (2005) model, undercontrolled individuals tend to be high in NA, are disinhibited and prone to externalising disorders such as antisocial PD, BPD, conduct disorder (Caspi, 2000; Eisenberg, Fabes, Guthrie & Reiser, 2000; Krueger, 1999), Bulimia Nervosa (Rush et al., 2009) and aggression (Hershorn & Rosenbaum, 1991). Conversely, overcontrolled individuals are high in NA, low in PA, are inhibited and prone to internalising disorders such as depression and social phobia (Caspi, 2000) and Cluster A and C PDs (Thompson-Brenner, Eddy, Boisseau, & Westen, 2008). Critically, this evidence indicates that it is maladaptive to over or under control emotional responding as both relate to pathology and deficits in social relations. This finding has been accounted for by Eisenberg et al. (2000) who specified a quadratic (inverted – U; Figure 1) relationship between SRC and social functioning (deficits of which correlate with, and feature in a number of clinical disorders like depression and PDs). This quadratic relationship between emotion regulation and social functioning contrasts with traditional theories that posit a linear relationship of control (e.g. undercontrol is maladaptive whereas overcontrol is adaptive; Block & Block, 1980). In conclusion, the non-affective system has a 'gate keeper' role in the degree to which incoming stimuli are subjected to inhibitory influence.

In summary, both Gray and McNaughton (2000) and Clark (2005) have identified two interrelated temperamental systems, BIS/BAS and NA/PA, respectively, which appear to underlie the same construct and advance more traditional linear ways of thinking (e.g., Block & Block, 1980). Similarly, they both include a regulatory component to their models, BIS (Gray and McNaughton, 2000), and DvC (Clark, 2005). In the model proposed by Lynch, Barnsley, Hempel & Clark (in prep.) it is believed that all these constructs are the same, performing gate-keeping, risk assessments, and resolving goal conflicts.



*Figure 1.* Graphic representation of the relationship between self-regulatory capacity and social functioning and the distribution of under-controlled and over-controlled individuals within that relationship adapted from Eisenberg, Fabes, Guthrie & Reiser, 2000.

### **Self-Regulatory Capacity and Psychological Functioning**

Emotion regulation refers to conscious and unconscious processes that influence the occurrence, intensity, duration and expression of emotion (Gross, 1998). Emotion regulatory processes may be automatic or controlled, conscious or unconscious (Gross, 1998). As such, individuals vary in their levels of self-regulation and deficits are increasingly understood as important predictors of internalising and externalising symptoms (or over and undercontrol respectively). For example, some individuals have a tendency to evaluate a situation as being more risky than it actually is and will consequently, over-regulate their response to incoming stimuli. This emotional over-control leads to an increase in inhibited/cautious behaviours. Alternatively, some individuals underestimate the perceived level of risk and are unable to regulate their response to incoming stimuli which can lead to emotional under-control and disinhibited/impulsive behaviours.

Emotion regulation is known to be an important factor in determining wellbeing and/or successful functioning (e.g., Thompson, 1991). For example, transient increases in

depressive mood are countered by adaptive emotion regulatory efforts, which permit a return to normal mood states. In vulnerable individuals, however, increases in depressed mood are not met by successfully regulatory measures. In these situations, the individual may cross the diagnostic threshold into an episode of major depressive disorder (Gross, 1998).

Furthermore, Eisenberg and colleagues (1997) found that individual differences in regulation and intensity of emotion predict the quality of social functioning. Indeed, many PDs involve long-standing maladaptive ways of managing one's emotions that can prevent an individual from developing satisfying and sustainable relationships (APA, 1994; as cited in Gross, 1998).

A well-studied emotion regulation strategy that has particular relevance to mood disorders and anxiety is suppression; the conscious act of forcing unwanted information out of our awareness. Studies indicate that suppression reduces the *behavioural expression of emotion* compared to control conditions, but does not decrease the subjective experience of negative emotion (e.g., Gross, 1998). Additionally, habitual use of suppression is associated with experiencing less positive emotion and greater negative emotion overall, worse interpersonal functioning and lesser wellbeing (Gross & John, 2003). More recently, Campbell-Sills, Barlow, Brown and Hoffman (2006) demonstrated that appraising emotions as unacceptable or unwanted mediated the relationship between negative emotion intensity and use of suppression within a group of individuals with anxiety and mood disorders. These findings contrast with the profile of individuals who habitually use an alternative regulation strategy, cognitive reappraisal – the interpretation of a potentially emotion-eliciting situation that changes its emotional impact (Gross & John, 2003) – to manage emotions. For example, cognitive reappraisal is associated with increased positive emotion and less negative emotion overall, better interpersonal functioning and greater wellbeing (Gross & John, 2003).

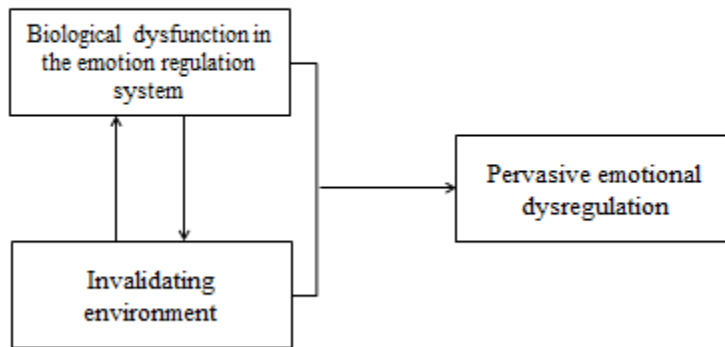
Depression has been linked to emotional dysregulation, particularly in the form of rumination, which involves a tendency to passively focus on the causes and consequences of depressed mood (e.g., Silk, Steinberg & Morris, 2003). In a recent study, McLaughlin and Hatzenbuehler (2009) indicated that emotion dysregulation mediated the relationship between stressful life events and mental health outcomes in a sample of adolescents. Emotional dysregulation was defined as poor emotional understanding (e.g., “I often do not know how I am feeling”; Penza-Clyve & Zeman, 2002), dysregulated emotion expression (e.g., “I attack whatever is making me angry”; Zeman, Shipman & Penza-Clyve, 2001) and rumination (e.g., “[I] think, why can’t I handle things better? Abela, Brozina & Haigh, 2002). This robust, longitudinal study concluded that stressful life events appeared to disrupt the adaptive processing of emotion among a sample of 1567 adolescents, thus identifying an intrapersonal process in which stressful events can “get under the skin” (McLaughlin & Hatzenbuehler, 2009, p.153).

### **Addressing the Clinical Issue of Control**

Lynch, Hempel and Clarke (in press) posit that temperamental predispositions for low reward sensitivity and high threat sensitivity coupled with difficult childhood experiences and environmental stress are believed to severely inhibit capacities or opportunities to learn flexible-responding; resulting in the development and maintenance of a personality style characterized by excessive inhibitory control (overcontrol) that increases the likelihood of psychological disorders such as treatment resistant or chronic courses of depression. To treat TRD, Lynch (in press) has proposed a novel adaptation of Dialectical Behaviour Therapy (DBT) that specifically targets overcontrol that is referred to as Radically Open-DBT (RO-DBT). DBT was originally designed for individuals with borderline personality disorder (Figure 2; BPD; Linehan, 1993); BPD is characterised by poor inhibitory control, mood



dependency, and low distress tolerance (Rosenthal et al., 2008) and is placed within the ‘erratic and dramatic’ undercontrolled cluster B personality disorders (APA, 2000).



*Figure 2.* Biosocial theory of borderline personality disorder taken from Linehan, 1993.

In many ways, BPD represents the prototypical undercontrolled disorder. Yet, for individuals characterised by overcontrol, Lynch and colleagues speculated that there are fundamental genetic/temperamental and sociobiographic differences that set them apart from undercontrolled individuals and these differences function to create the unique patterns of responding associated with overcontrol (Lynch & Cheavens, 2008; Lynch, Hempel, & Clark, in press). Overcontrol has been described as comprising of three skills deficits: i) in the expression and experience of emotion, ii) in forming close relationships and iii) in receptivity and openness (Lynch, Hempel & Clark, in press). The biosocial theory for RO-DBT posits that maladaptive overcontrol develops when an individual is temperamentally insensitive to reward and overly sensitive to threat stimuli, has a family/environment emphasizing mistakes as intolerable and self-control as imperative, and learns to cope by masking inner feelings, avoiding risk, being perfectionistic and obsessively focusing on details, enduring or minimizing distress, and behaving in an aloof/distant manner. Thus, overcontrol encompasses

many of the behaviours and problems associated with cluster A and C PDs (Lynch, in press). When applied to TRD, and unlike more traditional therapeutic approaches (e.g. CBT), Lynch and colleagues' novel treatment does not target features of depression directly but instead treats this co-occurring overcontrol personality prototype.

The efficacy of RO-DBT rests upon two published randomised controlled trials (RCTs) targeting overcontrol and TRD (Lynch et al., 2003; Lynch et al., 2007) and one uncontrolled-pilot trial targeting overcontrol and anorexia nervosa (Lynch et al., under review). Results from these RCTs indicated that modified DBT (for overcontrol) and ADM produced significant advantages for reducing rates of remission compared to medication alone in the treatment of chronic depression. In addition, DBT plus medication demonstrated superiority in reducing both interpersonal sensitivity and interpersonal aggression at post-treatment and six month follow-up in a sample of older adults with co-morbid depression and PD. Overall, these findings indicate that depressive symptoms, dimensions of personality and interpersonal relating can significantly improve with RO-DBT in older adults. Although these findings are encouraging, they must be interpreted cautiously because they relate to a very specific clinical group. As such, it is not possible to establish whether the observed differences are attributable to the treatment or non-specific factors related to the sample (age, cognitive functioning etc). Furthermore, although these findings offer preliminary support for Lynch and colleagues' model because it has not been empirically grounded findings cannot be generalised to other populations. For these reasons, future research using a range of different samples is required.

A key prediction from Lynch et al.'s theory of TRD is that individuals with TRD will be characterised by having more overcontrolled tendencies than individuals who do not have recurrent/chronic depression or normal individuals. Given that an individual's coping style is fluid and able to change over time (c.f., Linehan, 1993), Lynch, Hempel and Clark propose

that targeting features of overly regulated PDs (e.g., rigidity, inhibition of emotions and behaviour) that accompany depression could improve success rates and long-term prognosis (i.e., improved psychological wellbeing). As mentioned previously, Lynch and colleagues' model is already being tested in a clinical trial without it having been validated. To address this omission, regression and mediation studies should be conducted to establish the relationships between these key variables. Once these have been explored, longitudinal studies using outcome data should be conducted to establish the causal links between these variables. Furthermore, no study has directly compared the control tendencies of different depressive groups (e.g., acute forms, individuals in remission etc.,) or depressed individuals with normal controls. This could be achieved by conducting comparative evaluations with a series of different groups.

## **Conclusions**

The current review has examined the literature regarding personality and its relationship with psychopathology. The relationships have been reviewed in terms of Gray's (1970) RST and Clark's (2005) Three Systems model of affect which have highlighted the importance of self-regulatory capacity. Indeed, a new model proposed by Lynch, Barnsley, Hempel and Clark (in prep.) proposes that individual differences in personality, temperament and early childhood experiences can interact and result in psychological distress. This untested model has many clinical and theoretical implications. For example, the majority of PD research focuses on under-regulated PDs (e.g., borderline), despite convincing evidence that overly regulated PDs (e.g., obsessive-compulsive) regularly feature in poor treatment responses; little research examining how Sociobiographic History (e.g., invalidating environments/childhood maltreatment) interact with temperamental factors influencing social functioning exists; most research examining temperamental influences on the development of

psychopathology (including social dysfunction) over-looks potential mechanisms of change (i.e., individual differences in self-regulatory capacity) and prior models rarely link theory to treatment and/or provide clear rationale for developing new interventions. Gaining a richer understanding of overcontrolled individuals who are less widely researched but frequently re-present to services and remain treatment resistant could be particularly beneficial, both in terms of their wellbeing and for health services.

### **Search Strategy**

Searches were conducted on Web of Science, PsycINFO, PsyArticles and PubMed electronic databases. Combinations of the following search terms were used: Temperament\* affect\*, pathology, mental health, social functioning, personality, personality disorders, depress\* disorders/illness, emotion regulation, self-regulation, self-regulatory capacity, over-controlled or under-controlled, temperament\* systems, childhood maltreatment, individual differences.

## References

- Abela, J. R., Brozina, K., & Haigh, E. P. (2002). An examination of the response styles theory of depression in third and seventh grade children: A short-term longitudinal study. *Journal of Abnormal Child Psychology*, 30, 515-527.
- American Psychological Association (1980). *Diagnostic and statistical manual of mental disorders* (3<sup>rd</sup> ed.) Washington DC: Author.
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego: Academic.
- Berlim, M. T., & Turecki, G. (2007). What is the meaning of treatment resistant/refractory major depression (TRD)? A systematic review. *European Neuropsychopharmacology*, 17, 696–707.
- Bijebier, P., Beck, I., Claes, L. & Vandereycken, W. (2009). Gray's reinforcement sensitivity theory as a framework for research on personality and psychotherapy associations. *Clinical Psychology Review*, 29, 421-430.
- Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organisation of behaviour. In W. A. Collins (Ed) *Development of cognition, affect, and social relations: Minnesota Symposia on Child Psychology* (Vol. 13, p. 48). Hillsdale, NJ: Erlbaum.
- Calkins, S. & Fox, N. (2002). Self-regulatory processes in early personality development: A multilevel approach to the study of childhood social withdrawal and aggression. *Development & Psychopathology*, 14, 477-498.
- Campbell-Sills, L., Barlow, D. H., Brown, T. A., & Hofmann, S. G. (2006). Effects of suppression and acceptance on emotional responses on individuals with anxiety and mood disorders. *Behavior Research and Therapy*, 44, 1251-1263.
- Carver, C., Sutton, S. & Scheier, M. (2000). Action, emotion and personality: Emerging conceptual integration. *Personality and Social Psychology Bulletin*, 26, 741-751.
- Caspi, A. (2000). The child is father of the man: Personality continuities from childhood to adulthood. *Journal of Personality and Social Psychology*, 1, 158-172.

- Clark, L. (2005). Temperament as a Unifying Basis for Personality and Psychopathology. *Journal of Abnormal Psychology, 11*, 505-521.
- Corr, P. J. (2004). Reinforcement sensitivity theory and personality. *Neuroscience & Biobehavioral Reviews, 28*, 317-332.
- Eisenberg, N., Fabes, R., Guthrie, I. & Reiser, M. (2000). Dispositional Emotionality and Regulation: Their Role in Predicting Quality of Social Functioning. *Journal of Personality and Social Psychology, 78*, 136-157.
- Eisenberg, N., Fabes, R., Bernweig, J., Karbon, M., Poulin, R. & Hanish, L. (1993). The relations of emotionality and regulation to preschoolers' social skills and sociometric status. *Child Development, 64*, 1418-1438.
- Eisenberg, N., Fabes, R., Shepard, S., Murphy, B., Guthrie, I., Jones, S. et al. (1997). Contemporaneous and longitudinal prediction of children's social functioning from regulation and emotionality. *Child Development, 68*, 642-664.
- Fournier, J. C., DeRubeis, R. J., Shelton, R. C., Hollon, S. D., Amsterdam, J. D., & Gallop, R. (2009). Prediction of response to medication and cognitive therapy in the treatment of moderate to severe depression. *Journal of Counselling and Clinical Psychology, 77*, 775-787.
- Gray, J. (1970). The Psychophysiological basis of introversion-extraversion. *Behaviour Research and Therapy, 8*, 249-266.
- Gross, J. J. (1998). Antecedent and response focused emotion regulation: Divergent consequences for expression, experience, and physiology. *Journal of Personal Social Psychology, 74*, 224-237.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348-362.
- Hayden, E. P., Klein, D. N. (2001). Outcome of dysthymic disorder at 5-year follow-up: The effect of familial psychopathology, early adversity, personality, comorbidity, and chronic stress. *The American Journal of Psychiatry, 158*, 1864-1870.

- Hershorn, M. & Rosenbaum, A. (1991). Over- versus Undercontrolled Hostility: Application of the construct to the classification of martially violent men. *Violence and Victims*, 6, 151-158.
- Kreuger, R. (1999). The structure of common mental health disorders. *Archives of General Psychiatry*, 56, 921-926.
- Lengua, L., Bush, N., Long, A., Kovacs, E. & Trancik, A. (2008). Effortful control as a moderator of the relation between contextual risk factors and growth in adjustment problems. *Development and Psychopathology*, 20, 509-528.
- Linehan, M. M. (1993). *Cognitive-Behavioural Treatment of Borderline Personality Disorder*. New York, Guilford Press.
- Lynch, T. R., Barnsley, M., Hempel, R. J., & Clark, L. A. (in prep.) A transdiagnostic neuro- regulatory model of socio-emotional functioning.
- Lynch, T. R., & Cheavens, J. (in press). *Dialectical Behaviour Therapy for Treatment Resistant Depression*. New York: Guilford Press.
- Lynch, T. R., Cheavens, J. S., Cukrowicz, K. C., Thorp, S., Bronner, L., & Beyer, J. (2007). Treatment of older adults with co-morbid personality disorder and depression: A dialectical behaviour therapy approach. *International Journal of Geriatric Psychiatry*, 22, 131-143.
- Lynch, T. R., Gray, K. L. H., Hempel, R. J., Titley, M., Chen, E. Y., O'Mahen, H. (under review). Feasibility and outcomes of an adapted dialectical behavior therapy inpatient program for the treatment of adult Anorexia Nervosa. *BMC Psychiatry*.
- Lynch, T. R., Hempel, R. J., & Clark, L. A. (in press). Flexibility and radical openness: Facilitating self-inquiry in overcontrolled personality disorders. In J. Livesley, G. Dimaggio & J. Clarkin (Eds) *Integrated Treatment of Personality Disorder*. Guilford Press.
- Lynch, T. R., Morse, J. Q., Mendelson, T., Robins, C. J. (2003). Dialectical behaviour therapy for depressed older adults: A randomised pilot study. *The American Journal of Geriatric Psychiatry*, 11, 1-13.

- McCullough, J., & James, P. (2000). *Treatment for chronic depression: Cognitive Behavioral Analysis System of Psychotherapy (CBASP)*. New York: Guilford Press.
- McLaughlin, K. A., & Hatzenbuehler, M. S. (2009). Mechanisms linking stressful life events and mental health problems in a prospective, community-based sample of adolescents. *Journal of Adolescent Health, 44*, 153-160.
- McNaughton, N., & Gray, J. (2000). Anxiolytic action on the behavioural inhibition system implies multiple types of arousal contribute to anxiety. *Journal of Affective Disorders, 61*, 161-176.
- McPherson, S., Cairns, P., Carlyle, J., Shapiro, D., Richardson, P., & Taylor, D. (2005). The effectiveness of psychological treatments for treatment-resistant depression: A systematic review. *Acta Psychiatrica Scandinavica, 111*, 331–340.
- Metcalfe, J. & Mischel, W. (1999). A hot/cold system of delay of gratification: Dynamics of willpower. *Psychological Review, 106*, 767-777.
- Mischel, W., Shoda, Y. & Peake, P. (1988). The nature of adolescent competencies predicted by preschool delay of gratification. *Journal of Personality and Social Psychology, 54*, 687-696.
- Moussavi, S., Chatterji, S., Verdes, E., Tandon, A., Patel, V., & Ustun, B. (2007). Depression, chronic diseases, and decrements in health. *The Lancet, 370*, 851–858.
- Murray, C., & Lopez, A. (1997). Alternative projections of mortality and disability by cause 1990-2020. *The Lancet, 349*, 1498–1504
- National Institute for Health and Clinical Excellence. (2007). *Depression: The Treatment and Management of Depression in Adults*. London: NICE.
- Penza-Clyve, S., & Zeman, J. (2002). Initial validation of the emotion expression scale for children (EESC). *Journal of Clinical Child and Adolescent Psychology, 31*, 540-547.
- Riso, L. P., Blandino, J. A., Penna, S., Dacey, S., Grant, M. M., Du Toit, P. L., et al. (2003). Cognitive aspects of chronic depression. *Journal of Abnormal Psychology, 112*, 72–80.



- Riso, L. P., Miyatake, R. K., Thase, M. E. (2002). The search for determinants of chronic depression: a review of six factors. *Journal of Affective Disorders*, 70, 103–115.
- Rosenthal M.Z., Kim, K., Herr, N.R., Smoski, M.J., Cheavens, J.S., Lynch, T.R., & Kosson, D.S. (under review). Emotional sensitivity in avoidant personality disorder: Speed and accuracy of facial expression classification.
- Rush, A. J., Trivedi, M. H., Wisniewski, S. R., Nierenberg, A. A., Stewart, J. W., Warden, D. et al. (2006). Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: A STAR\*D report. *American Journal of Psychiatry*, 163, 1905-17.
- Sagarra, P., Ross, S., Pastor, M., Montanes, S., Poy, R. & Molto, J. (2007). MMPI-2 predictors of Gray's two-factor reinforcement sensitivity theory. *Personality and Individual Differences*, 43, 437-448.
- Silk, J. S., Steinberg, L., Morris, A. S. (2003). Adolescents' emotion regulation in daily life: links to depressive symptoms and problem behaviour. *Child Development*, 74, 1869-80.
- Tangney, J., Baumeister, R. & Boone, A. (2004). High self-control predicts good adjustment, less pathology, better grades and interpersonal success. *Journal of Personality*, 72, 271-322.
- Thompson-Brenner, H., Eddy, K., Boisseau, C. & Westen, D. (2008). Personality subtypes in adolescents with eating disorders: Validation of a classification approach. *The Journal of Child Psychology and Psychiatry*, 49, 170-180.
- Widiger, T. & Trull, T. (2007). Plate tectonics in the classification of personality disorder: shifting to a dimensional model. *American Psychologist*, 62, 71-83.
- Zeman, J., Shipman, K., Penza-Clyve, S. (2001). Development and initial validation of the Children's Sadness Management Scale. *Journal of Nonverbal Behaviour*, 25, 187-205.
- Zhou, Q., Main, A. & Wang, Y. (2010). The relations of temperamental effortful control and anger/frustration to Chinese children's academic achievement and social adjustment: A longitudinal study. *Journal of Educational Psychology*, 102, 180-196.

## Manuscript

### Abstract

By 2020 depression is predicted to be the second most frequent cause of disability worldwide. Research suggests that existing methods of treatment are ineffective for many resulting in a large number of chronic, treatment resistant courses (termed refractory depression [RD]). Further evidence suggests that up to 60% of individuals with RD have a co-morbid Personality Disorder (PD), namely Clusters A and C. As such, it has been proposed that individuals with RD fail to respond to existing treatment interventions because these treatments fail to address maladaptive personality styles (i.e., overcontrol tendencies) that may complicate treatment. This project aimed to test this novel assertion by examining whether individuals with RD exhibit higher levels of overcontrol (e.g., skills deficits in the expression and experience of emotion, in forming close relationships and in receptivity and openness) compared to individuals with current, but not chronic, depression and a normal control group. A total of 180 individuals were recruited and based on eligibility criteria were allocated to the following groups: RD,  $n = 56$ ; acute, non-chronically depressed (ANCD),  $n = 61$ ; normal control (NC),  $n = 63$ . Participants completed a series of self-report questionnaires and as a whole, between group analyses supported study predictions; individuals with RD displayed significantly higher levels of overcontrol compared to both the ANCD and NC groups. More specifically, individuals with RD demonstrated significantly more difficulties with interpersonal relationships and expressing emotions, a significantly greater need for structure and significantly higher levels of maladaptive perfectionism compared to controls. This study forms part of a large multi-centre randomised controlled trial (RCT; REFRAMED) that is designed to study the efficacy of a novel treatment intervention - Radically Open-Dialectical Behaviour Therapy – for individuals with RD.

**Keywords: Overcontrol, Coping, Refractory Depression, Depression, Personality Style**

## Overcontrolled Tendencies in Refractory Depression compared to Acute Non-Chronic Depression; The Importance of Treating Maladaptive Personality Style

Depression is a major public health problem that poses significant costs to society and an individual's health and wellbeing (Moussavi, Chatterji, Verdes, Tandon, Patel, & Ustun, 2007). The severity of the problem is highlighted by a projection made by the World Health Organisation that suggests by 2020 depression will be the second most frequent cause of disability worldwide (Murray & Lopez, 1997). Major Depressive Disorder (MDD) can take a number of different courses, several of which complicate treatment. For example, depression is often an intermittently occurring condition, with relapse rates of up to 50 - 80% among those who previously have been depressed (Judd, 1997; Mueller et al., 1999). Furthermore, in the absence of prophylactic treatment, the rate of recurrence in MDD can reach about 80% (Frank, Kupfer, Perel, & Cornes, 1990), and even with treatment, there is a high rate of recurrence (Frank et al., 1990; Kupfer et al., 1992). Chronic forms of major depression are associated with increased health care utilisation (Howland, 1993; Weissman et al., 1988), marked impairments in work performance (Wells et al., 1992; Miller et al., 1998), and higher rates of suicide attempts and hospitalisation compared to acute depression (Klein et al., 1998). For these reasons, the considerable contribution of MDD to the total burden of disease is principally because of its highly recurrent nature (Murray & Lopez, 1997).

Although treatments recommended by the National Institute for Health and Clinical Excellence (NICE, 2007) have been shown to work for many individuals, evidence indicates that certain depressive courses are less receptive to existing treatments. For example, after receiving antidepressant medication (ADM) for one year, 60% of individuals continued to meet diagnostic criteria for MDD (Goldberg, Privett, Ustun, Simon, & Linden, 2003).

Furthermore, although NICE (2007) recommends the combination of ADM and psychotherapy for more severe presentations, evidence indicates that chronic depression is significantly less responsive to this combined approach than non-chronic episodes of MDD (Blom et al., 2007; Fournier et al., 2009; Joyce et al., 2002; Sotsky et al., 1991).

Depression that does not respond to available treatments can be classified as treatment-resistant depression (TRD) and like severe and/or chronic courses, NICE (2007) recommends treatment using ADM and/or psychotherapy (Cognitive Behaviour Therapy [CBT] or Interpersonal Therapy [IPT]). Recent research, however, shows that up to 60% of patients with TRD fail to achieve an adequate response following acute ADM treatment (Fava, 2003; Rush et al., 2006) and research into the effectiveness of psychotherapy is not only sparse but has a number of conceptual and methodological limitations (see McPherson et al., 2005 for a review). Thus, despite the growing prevalence of TRD, few promising candidates for the effective treatment of chronic and treatment resistant courses exist<sup>3</sup>.

Lynch and colleagues (Lynch, Hempel, & Clark, in press; Lynch & Cheavens, 2008; Lynch et al., 2007) have proposed that when psychopathology is long-standing and does not respond to efficacious first-line treatments, this may signal that over-learned patterns of self-control and broad-based personality dimensions are interfering with change. Traditional theorists believe self-control exists on a linear axis with high levels considered to be adaptive (e.g., goal directed behavior) and low levels maladaptive (e.g., obesity, substance misuse etc.; see Baumeister, Heatherton, & Tice, 1994; Block & Block, 1980). A limitation of these models, however, is that excessive self-control can also be problematic and is associated not only with difficulties such as social isolation, impaired interpersonal functioning, maladaptive perfectionism, rigidity, lack of emotional expression, but with severe mental health problems

---

<sup>3</sup> In clinical practice, chronic (long-lasting depression, greater than two years) and TRD (depression that is unresponsive to adequate treatment) may overlap, with many patients meeting both definitions; yet both reflect depression that is treatment refractory—or unresponsive depression that is either TRD, chronic, or both. As such, the term Refractory Depression will be used to refer to this group.

like anorexia nervosa and chronic depression (Asendorpf, Denissen, & van Aken, 2008; Chapman & Goldberg, 2011; Eisenberg, Fabes, Guthrie, & Reiser, 2000; Lynch & Cheavens, 2008; Meeus, Van de Schoot, Klimstra, & Branje, 2011; Zucker et al., 2007). These findings help explain the development and maintenance of two broad classes of psychopathology; *undercontrolled* and *overcontrolled* disorders, which equate to the well-recognised division between externalising (e.g., conduct disorders) and internalising (e.g., major depression) disorders respectively (Crijnen, Achenbach, & Verhulst, 1997).

Evidence suggests that up to 60% of patients with refractory depression (RD) meet criteria for at least one co-morbid personality disorder (PD; e.g., Fava et al., 2002; Klein et al., 1995; Pepper et al., 1995; Pilkonis & Frank, 1988; Riso, Miyatake, & Thase, 2002; Shea, Glass, Pilkonis, & Watkins, 1987; Shea, Pilkonis, Beckham, & Collins, 1990). The most common PDs among these individuals are Paranoid (Cluster A), Obsessive-Compulsive, and Avoidant (Cluster C); which interestingly, are the PDs reported to be most resistant to existing treatments, particularly CBT (Fournier et al., 2009; Fava et al., 2002; Candrian et al., 2008; Russell et al., 2003). These PDs share a core set of overlapping diagnostic criteria that Lynch and colleagues propose involves an over-reliance on inhibition as a self-control strategy. The over-use of this self-control strategy is related to psychopathology in various forms. Taken together, these findings suggest that internalising disorders such as RD are associated with increased prevalence of maladaptive personality traits and over learned self-control tendencies which could account for why existing treatments designed to target RD symptomatology are often ineffective.

To take into account these individual differences in personality style and self-control tendencies, Lynch and Cheavens (2008) have proposed a novel adaptation of Dialectical Behaviour Therapy (DBT) that specifically targets overcontrol (OC) that is referred to as Radically Open-DBT (RO-DBT). The efficacy of RO-DBT rests upon two published

randomised controlled trials (RCTs) targeting OC and refractory depression (Lynch et al., 2003; Lynch et al., 2007), one open-trial targeting OC and anorexia nervosa (Lynch et al., under review), and one ongoing multi-centre RCT targeting OC and refractory depression (RD) and testing potential mechanisms of change. DBT was originally designed for individuals with BPD (e.g., externalising disorder; Linehan, 1993); BPD is characterised by poor inhibitory control, mood dependency, and low distress tolerance (Rosenthal et al., 2008) and is placed within the ‘erratic and dramatic’ undercontrolled cluster B personality disorders (APA, 2000). In many ways, BPD represents the quintessential undercontrolled (UC) disorder. Yet, for individuals characterized by overcontrol (OC) Lynch and colleagues speculated that there are fundamental genetic/temperamental and sociobiographic differences that set them apart from UC individuals and these differences function to create the unique patterns of responding associated with OC (Lynch & Cheavens, 2008; Lynch, Hempel, & Clark, in press).

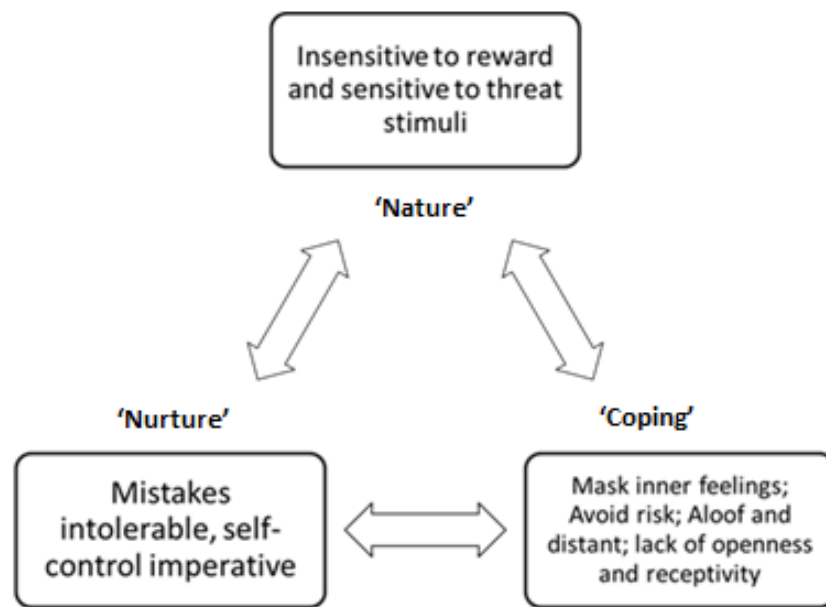
Overcontrol (OC) has been described as comprising of three skills deficits; i) in the expression and experience of emotion, ii) in forming close relationships and iii) in receptivity and openness (Lynch et al., in press). The biosocial theory for RO-DBT posits that maladaptive OC develops when an individual is temperamentally insensitive to reward and overly sensitive to threat stimuli, has a family/environment emphasizing mistakes as intolerable and self-control as imperative, and learns to cope by masking inner feelings, avoiding risk, being perfectionistic and obsessively focusing on details, maladaptively enduring or minimizing distress, and behaving in an aloof/distant manner (Figure 1). Thus, OC encompasses many of the behaviours and problems associated with cluster A and C PDs (Lynch, in press). When applied to RD, and unlike more traditional therapeutic approaches (e.g. CBT), Lynch and colleagues’ novel treatment does not target features of depression directly but instead treats this co-occurring OC personality prototype.

The present study was primarily designed to test the phenotypic aspect of Lynch and Cheavens' Biosocial Model ('coping') by comparing self-reported levels of OC among three groups; a refractory depressed (RD) group, an acute non-chronically depressed (ANCD) group, and a normal control (NC) group. The ANCD group was included because it was important to establish whether levels of OC could be differentiated according to the specific nature of the disorder as opposed to the presence of pathology in general (i.e., depression). As such, any predicted differences in levels of OC between the RD and the ANCD groups would provide support for Lynch and colleagues' assertions that longstanding and treatment resistant depression reflects maladaptive personality traits and over learned self-control tendencies. It was predicted that individuals with RD would report higher levels of OC compared to the ANCD and NC groups.

In addition, the present study aimed to conduct a preliminary test of the sociobiographic aspect of the model ('nurture'). It was predicted that individuals with RD would report higher levels of parental expectations and criticism compared to the ANCD and NC groups.

Research questions included: (1) Do individuals with refractory depression have significantly higher levels of overcontrolled tendencies compared to individuals with acute non-chronic depression and normal controls and (2) Can the self-reported sociobiographic histories (perceived parental expectations and criticism) of individuals with RD be differentiated from those reported by individuals with ANCD and NCs?

In addition, since at this date no gold-standard measure of OC exists, a secondary aim of this study was to develop a provisional measure of OC by combining items from several existing questionnaires believed to be representing this latent construct.



*Figure 1.* The Biosocial Theory for Overcontrolled Disorders (adapted from Lynch & Cheavens, 2008)

## Method

### *Design and Participants/Sample*

Consistent with the recommendations of Cohen (1988)<sup>4</sup> a total sample of 180 participants was recruited to participate in this between-subjects-design. Based on the inclusion and exclusion criteria (see Table 1); 56 individuals met criteria for the RD Group, 61 for the the ANCD Group and 63 for the NC Group. RD was defined as a current diagnosis of MDD and a depressive episode on two or more previous occasions or chronic depression defined by a single episode lasting for more than two years. ANCD was defined as meeting criteria for a MDD and the maximum of one previous episode of depression. All participant demographics split by Group are displayed in Table 2.

<sup>4</sup> To detect a medium effect at Power = .80 for  $\alpha=.05$ , a minimum of 52 participants per group were required (Cohen, 1988).



## ***Screening***

In order to assess participant's suitability for the current study, a number of screening measures were completed. Measures differed for each group due to different recruitment procedures (see Procedure Section). Table 3 displays the measures completed by each Group and a description of each is listed below:

*Structured Clinical Interview for DSM-IV-TR Disorders – I.* The SCID-I (First, Spitzer, Robert, Gibbons & Williams, 2002) is a diagnostic semi-structured clinical interview designed to identify major DSM-IV Axis I diagnoses such as major depressive disorder, psychosis, bipolar depression and substance misuse. Validation studies indicate acceptable levels of inter-rater reliability, Kappa  $K = .75$  and 90% in accuracy of diagnosis (see First, Spitzer, Robert, Gibbons & Williams, 2002);

*Structured Clinical Interview for DSM-IV-TR Disorders – II (SCID-II).* The SCID-II (First, Spitzer, Robert, Gibbons, Williams, & Benjamin, 1997) is a diagnostic semi-structured clinical interview designed to identify major DSM-IV Axis II personality disorders. Validation studies indicate acceptable inter-rater reliability and internal consistency, Kappa  $K = .75$  and Cronbach's  $\alpha = .80$  (see First, Spitzer, Robert, Gibbons, Williams, & Benjamin, 1997);

Table 1.

*Inclusion and Exclusion Criteria for all Groups*

| <b>Group</b> | <b>Inclusion Criteria</b>   | <b>Exclusion Criteria</b>  |
|--------------|---|--|
| <b>RD</b>    | Subjects aged 18 years or older<br>Current diagnosis of Major Depressive Disorder based on Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV; American Psychiatric Association, 1994)<br>Depressive episode on two or more previous occasions OR chronic depression defined by a single episode lasting for more than two years<br>To have taken antidepressant medication for minimum of six weeks at doses recommended by British National Formulary within their current episode | IQ <70*<br>Insufficient English language to complete assessments<br>Subjects who meet DSM-IV criteria for Cluster B PD (BPD, Narcissistic, Histrionic, Antisocial), bipolar depression or psychosis<br>Primary diagnosis of substance dependence or substance misuse disorder<br>Have received standard DBT within past six months, are currently receiving standard DBT or on waiting list for standard DBT |
| <b>ANCD</b>  | Subjects aged 18 years or older<br><br>Current diagnosis of Major Depressive Disorder OR meeting criteria for depression as defined by the DSM-IV criteria  | Meeting criteria for RD (see above)<br>Insufficient English language to complete assessments<br><br>A self-disclosed diagnosis of Cluster B PD (BPD, Narcissistic, Histrionic, Antisocial)   |
| <b>NC</b>    | Subjects aged 18 years or older   | Meeting criteria for RD<br><br>Meeting criteria for MDD<br><br>Insufficient English language to complete assessments<br><br>A self-disclosed diagnosis of Cluster B PD (BPD, Narcissistic, Histrionic, Antisocial)   |

\*Note. Practitioners were informed not to make referrals for individuals with a diagnosed learning disability (IQ<70). IQ was not assessed for the ANCD and NC groups.

Table 2.

*Participant Demographics Split by Group*

|   | <b>Group</b>          |                                 |                | Between Group differences       |
|---|-----------------------|---------------------------------|----------------|---------------------------------|
|   | Refractory Depression | Acute Non-Chronically Depressed | Normal Control |                                 |
| <b>Gender</b>                           |                       |                                 |                | $\chi^2 (2) = 1.06, p > .05$    |
| Male                                    | 14 (24%)              | 12 (20%)                        | 10 (16%)       |                                 |
| Female                                  | 42 (76%)              | 49 (80%)                        | 53 (84%)       |                                 |
| <b>Age range</b>                        |                       |                                 |                | $\chi^2 (10) = 70.97, p < .001$ |
| 18-25                                   | 3 (5%)                | 22 (36%)                        | 7 (11%)        |                                 |
| 26-35                                   | 8 (14%)               | 26 (43%)                        | 30 (48%)       |                                 |
| 36-45                                   | 16 (29%)              | 4 (7%)                          | 4 (6%)         |                                 |
| 46-55                                   | 16 (29%)              | 2 (3%)                          | 3 (5%)         |                                 |
| 56-65                                   | 10 (18%)              | 2 (3%)                          | 11 (17%)       |                                 |
| 66+                                     | 3 (5%)                | 5 (8%)                          | 8 (13%)        |                                 |
| <b>Education</b>                        |                       |                                 |                | $\chi^2 (10) = 70.97, p < .001$ |
| <b>Background</b>                       |                       |                                 |                |                                 |
| Left school before 16                   | 7 (12%)               | 2 (3%)                          | 0              |                                 |
| Left school at 16                       | 13 (23%)              | 1 (2%)                          | 3 (5%)         |                                 |
| Left school at 18                       | 9 (16%)               | 3 (5%)                          | 1 (2%)         |                                 |
| Attending higher education              | 1 (2%)                | 13 (21%)                        | 7 (11%)        |                                 |
| Completed higher education              | 19 (34%)              | 14 (23%)                        | 12 (19%)       |                                 |
| Completed post-graduate qualification   | 7 (13%)               | 28 (46%)                        | 40 (63%)       |                                 |
| <b>Marital Status</b>                   |                       |                                 |                | $\chi^2 (12) = 21.12, p > .05$  |
| Single                                  | 12 (21%)              | 23 (38%)                        | 9 (14%)        |                                 |
| Intimate relationship living separately | 3 (5%)                | 11 (18%)                        | 7 (11%)        |                                 |
| Co-habiting                             | 5 (9%)                | 10 (16%)                        | 18 (29%)       |                                 |
| Married                                 | 23 (41%)              | 16 (26%)                        | 25 (40%)       |                                 |
| Separated/divorced                      | 11 (20%)              | 1 (2%)                          | 3 (4%)         |                                 |
| Widowed                                 | 2 (4%)                | -                               | -              |                                 |
| Missing                                 | -                     | -                               | 1 (2%)         |                                 |
| <b>Ethnicity</b>                        |                       |                                 |                | $\chi^2 (24) = 30.40, p > .05$  |
| White – British                         | 44 (79%)              | 34 (56%)                        | 48 (76%)       |                                 |
| White – Irish                           | 4 (7%)                | 2 (3%)                          | 4 (6%)         |                                 |
| White - other                           | 4 (7%)                | 14 (23%)                        | 8 (13%)        |                                 |
| Mixed white and black African           | -                     | -                               | 1 (2%)         |                                 |
| Other black or black British            | -                     | -                               | 1 (2%)         |                                 |
| Mixed white and Asian                   | 1 (2%)                | 1 (2%)                          | -              |                                 |
| Asian or Asian British Bangladeshi      | -                     | 2 (3%)                          | -              |                                 |
| Asian or Asian British Indian           | -                     | 1 (2%)                          | -              |                                 |
| Other Asian or Asian British            | -                     | 2 (3%)                          | -              |                                 |
| Chinese                                 | -                     | 1 (2%)                          | -              |                                 |
| Other mixed                             | -                     | 2 (3%)                          | 1 (2)          |                                 |
| Any other ethnic group                  | -                     | 1 (2%)                          | -              |                                 |

Table 3.

*Screening Measures Completed by each Group*

|  | <b>RD</b>              | <b>Group<br/>ANCD</b> | <b>NC</b>           |
|--|------------------------|-----------------------|---------------------|
| <b>Depression</b>                                      | SCID – I, HAMD,<br>PHQ | PHQ, DID              | PHQ, DID            |
| <b>Cluster B<br/>Personality<br/>Disorders</b>         | SCID-II                | Demographic Form      | Demographic Form    |
| <b>Bipolar, psychosis<br/>and substance<br/>misuse</b> | SCID-I                 | <i>Not assessed</i>   | <i>Not assessed</i> |

*Note.* SCID-I = Structured Clinical Interview for DSM-IV-TR Disorders - I; SCID-II = Structured Clinical Interview for DSM-IV-TR Disorders – II; HAMD = Hamilton Depression Scale; PHQ = Patient Health Questionnaire; DID = Diagnostic Inventory for Depression.

*Hamilton Depression Rating Scale (HAMD).* The HAMD (Hamilton, 1960), is a semi-structured clinical interview designed to assess the frequency and severity of depressive symptoms. It comprises of 21 standardised questions that examine mood, feelings of guilt, suicide ideation, insomnia, agitation or retardation, anxiety, weight loss and somatic symptoms over the past seven days. Intensity is rated to be ‘mild’, ‘moderate’, ‘severe’ or ‘very severe’ and frequency as ‘absent’, ‘occasional’, ‘much of the time’ or ‘almost all the time’. Scores of 0-7 are considered to be normal and scores over 20 moderate, severe or very severe depression. Finally, the HAMD has been shown to have a high level of internal reliability and test re-test reliability, Cronbach’s  $\alpha = .88$  and  $.81$  respectively (Williams, 1988);

*Patient Health Questionnaire – Nine Items (PHQ).* The PHQ-9 (Kroenke, Spitzer & Williams, 2001), a nine item self-report measure, assesses the presence and severity of depressive symptoms<sup>5</sup>. Scores of less than four indicate no depression, four to eight mild depression, nine to thirteen mild/moderate depression, fourteen to eighteen moderate/severe depression and more than nineteen indicates severe depression. Validation studies indicate

<sup>5</sup> Item nine assesses suicidal ideation and given the procedure for the ANCD and NC groups, a decision was made to remove this item. As such, scoring has been adjusted and calculated using the eight-item version for all groups.

good/excellent internal consistency, Cronbach's  $\alpha = .89$ . Criteria validity determined by structured interviews with a mental health professional indicated that individuals who scored high ( $> 10$ ) were between 7 to 13.6 times more likely to be diagnosed with depression and individuals scoring low ( $< 4$ ) had a less than a 1 in 25 chance of having depression (see Kroenke, Spitzer & Williams, 2001). This measure demonstrated excellent internal reliability for the present sample, Cronbach's  $\alpha = .93$ .

*The Diagnostic Inventory for Depression (DID)*. The DID (Zimmerman, Sheeran & Young, 2004) is a 38-item self-report scale designed to assess the DSM-IV symptom inclusion criteria for a major depressive episode, psychosocial impairment due to depression, and evaluate subjective quality of life. In order to meet the criteria for depression individuals are required to score a minimum of five out of nine possible depressive symptoms, display low mood or anhedonia and psychosocial impairment must be present. Validation studies indicate that the DID is significantly associated with diagnoses of major depression made by clinicians using the SCID-I (Zimmerman, Sheeran & Young, 2004). In addition, significant associations with interviewer ratings of the severity of depression and psychosocial functioning have been determined. Finally, the DID has been shown to have a high level of convergent validity with the HAMD ( $r = .73, p < .001$ ). This measure demonstrated excellent internal reliability for the present sample, Cronbach's  $\alpha = .97$ .

*Demographic Questionnaire*: A non-standardised self-report questionnaire created by the research team to determine participant's gender, age, ethnicity, marital status and educational/employment level. In addition, the questionnaire asked participants about both their current and previous mental health, including diagnoses of depression and PDs (Appendix MA).

## Measures

Table 4 outlines the five self-report questionnaires completed by all participants in order to address the proposed research questions. Because no measure of overcontrol as defined by Lynch and colleagues currently exists a selection of measures was chosen to represent the different components of this construct (see Figure 1).

Table 4

*Self-report Measures for all participants*

| Construct                                  | Components   | Measure   |
|--|--|---|
| <b>Coping:</b><br>Overcontrol              | Masking inner feelings<br>Avoidance of risk<br>Aloof and distant interpersonal style<br>Receptivity and openness | Personal Need for Structure (PNS)<br>Doubt about Actions and Concern over Mistakes subscales of Frost Multidimensional Perfectionism Questionnaire (FMPQ)<br>Ambivalence over Emotional Expressiveness Questionnaire (AEQ)<br>Impression Management subscale of Balanced Inventory of Desired Responding (BIDR)<br>Inventory of Interpersonal Problems (IIP-25) |
| <b>Nurture:</b><br>Sociobiographic History | Mistakes intolerable<br>Self-control imperative  | Parental Expectations and Parental Criticism subscales of the FMPQ  |

*Personal Need for Structure* (PNS; Neuberg & Newsom, 1993). The PNS is an 11-item self-report measure designed to assess individual's simple need for structure in their lives. It has two related but distinct factors; the extent to which people prefer to structure their lives (Desire for Structure [DS]; "*I enjoy having a clear and structured mode of life*") and the manner in which people respond when confronted with unstructured, unpredictable situations (Response to Lack of Structure [RLS]; "*I don't like situations that are uncertain*").

Participants are required to provide ratings on a six-point Likert-type scale ranging from 1 'strongly disagree' to 6 'strongly agree', such that higher scores indicate greater need for structure. The total PNS and both the DS and RLS factors are reported to have good internal

reliability ( $\alpha = .85$ ,  $\alpha = .78$  and  $\alpha = .82$ ) and good test-retest reliability ( $r = .76$ ,  $r = .84$  and  $r = .79$ ) respectively. This measure demonstrated acceptable internal reliability for the present sample, Cronbach's  $\alpha = .75$ .

*Frost Multidimensional Perfectionism Scale* (FMPQ; Frost, Marten, Lahart & Rosenblate, 1990): This 35-item self-report measure is designed to assess the multidimensional construct of perfectionism across six factors, four of which are combined to form a Maladaptive Perfectionism subscale (concern over making mistakes [CM], the doubting of the quality of one's actions [DA], the perception of high parental expectations [PE], and the perception of high parental criticism [PC]). Because PE and PC relate to perceived parental expectations and criticism, this was considered to represent the sociobiographic aspect of the model as opposed to OC coping style. As such, a decision was made to group CM with DA (i.e., Maladaptive Self-concern and Doubt; *"I should be upset if I make a mistake"* and *"It takes me a long time to do something right"*) and PE with PC (i.e., Perceived Maladaptive Parental Style; *"only outstanding performance is good enough in my family"* and *"as a child, I was punished for doing things less than perfect"*). Participants are required to provide ratings on a five-point Likert scale ranging from 1 'strongly disagree' to 5 'strongly agree' such that high scores indicate higher levels of maladaptive perfectionism. With the present sample, the Maladaptive Self-concern and Doubt and Perceived Maladaptive Parental Style subscales were shown to have excellent internal consistency, Cronbach's  $\alpha = .93$  and  $.91$  respectively. This measure demonstrated excellent internal reliability for the present sample, Cronbach's  $\alpha = .92$ .

*Ambivalence over Emotional Expressiveness Questionnaire* (AEQ; King & Emmons, 1990): This 28-item self-report measure assesses ambivalence over the expression of both positive and negative emotions (e.g., *"I strive to keep a smile on my face in order to convince others I am happier than I really am"* and *"often I find that I am not able to tell others how*

*much they really mean to me*”). Participants are required to provide ratings on a five-point Likert scale ranging from 1 ‘never’ to 5 ‘very often’ such that high scores indicate greater ambivalence over the expression of emotions. The AEQ has demonstrated good internal reliability ( $\alpha = .89$ ) and good test-retest reliability ( $r = .78$ ). This measure demonstrated excellent internal reliability for the present sample, Cronbach’s  $\alpha = .94$ .

*The Inventory of Interpersonal Problems-25* (IIP-25; Kim & Pilkonis, 1999): This 25-item self-report questionnaire is a dimensional measure of an individual’s interpersonal style, particularly interpersonal difficulties. It comprises of five factors; Interpersonal Aggression (*“I am too aggressive towards other people”*), Lack of Sociality (*It’s hard for me to be self-confident when I am with other people*”), Interpersonal Ambivalence (*It’s hard for me to do what another person wants me to do*”), Interpersonal Sensitivity (*“I am too sensitive to criticism”*) and Need for Social Approval (*“I try to please other people too much”*) which are combined to create a total score of interpersonal functioning. Participants are required to provide ratings on a five-point Likert scale ranging from 1 ‘not at all’ to 5 ‘extremely’ such that high scores indicate impaired social functioning. This measure is reported to have an excellent level of internal reliability ( $\alpha = .91$ ; Kim & Pilkonis, 1999). This measure demonstrated good internal reliability for the present sample, Cronbach’s  $\alpha = .83$ .

*The Balanced Inventory of Desired Responding* (BIDR; Hart, Ritchie, Hepper & Gebauer, 2010). The 16-item BIDR consists of two eight-item subscales that are scored separately to produce Self-Deceptive Enhancement and Impression Management, the latter of which was used in the current study. Participants are required to provide ratings on a seven-point Likert scale ranging from 1 ‘totally disagree’ to 7 ‘totally agree’ such that high scores indicate a high level of impression management (e.g., *“when I hear people talking privately, I avoid listening”*). With the present sample, Impression Management was shown to have acceptable internal reliability, Cronbach’s  $\alpha = .73$ .



## ***Procedure***

*RD Group.* The RD group was recruited as part of a larger scale, multi-site randomised clinical trial (REFRAMED; funded by the Medical Research Council, Efficacy and Mechanisms Evaluation programme) so their screening and recruitment differed to the other two groups. Ethical and R&D approval for the trial was granted by the National Research Ethics Committee South Central (Southampton A; Appendix MB) and the Research Ethics committee of the University of Southampton<sup>6</sup>. Participants were recruited from a number of primary and secondary care NHS sites within Dorset, Hampshire and Gwynedd (North Wales). This recruitment process is outlined in Appendix MC and Participant Information Sheet, Consent Form and Debriefing Sheet in Appendix MD. The recruitment, screening and data collection for the RD sample was completed by researchers independent of the current study.

Researchers met with participants to determine whether they met criteria for the trial. This involved completing the SCID-I, SCID-II and HAMD interviews. Participants were given the self-report questionnaires to complete at a time and place convenient to them and asked to return them in a stamped addressed envelope. Eligible participants were assigned to the clinical trial and their baseline data used in the present study.

*ANCD and NC Groups.* The Depressed and Control Groups were recruited via email from the following research experiment participant databases:

<http://www.exppsy.co.uk/exeter/login.html>; <http://www.onlinepsychresearch.co.uk/> and <http://psych.hanover.edu/research/exponnet.html>. Ethical approval was received from the School of Psychology's Ethics Committee at the University of Exeter<sup>7</sup> (Appendix ME).

Questionnaires were programmed into 'lime survey' and completed by participants using the following link; <http://survey.ex.ac.uk/index.php?sid=57542&lang=en>. Participants

---

<sup>6</sup> Academic institution linked to current supervisors

<sup>7</sup> Academic institution for the author

received either course credits or entry into a prize draw as remuneration for completing the study (the possibility of receiving one of five possible £20 Amazon vouchers). See Appendix MF for the Participant Information Sheet, Consent and Debriefing Form.

Participants assigned to the ANCD group were required to score a minimum of four on the PHQ and meet DSM-IV criteria for depression as assessed by the DID. In order to be assigned to the NC group participants were required to score less than four on the PHQ and were not permitted to meet DSM-IV criteria for depression as assessed by the DID (refer to screening section). PHQ scores for all groups are displayed in Table 5 and indicate how the groups can be differentiated.

Table 5.

*Patient Health Questionnaire (Depression) Scores for each Group*

|                           | <b>Group</b>                     |   |                            |
|---------------------------|----------------------------------|---|----------------------------|
|                           | Refractory<br>Depressed (n = 56) | Acute Non-Chronically<br>Depressed (n = 61) | Normal Control<br>(n = 63) |
| <b>Mean</b>               | 17.11                            | 11.93                                       | 1.87                       |
| <b>Standard Deviation</b> | 4.09                             | 5.86  | 1.17                       |
| <b>Range</b>              | 8 – 24                           | 6 – 24                                      | 0 - 3                      |

*Note.* A significant group difference was found for levels of depression,  $F(2, 180) = 208.20$ ,  $p < .001$ . Post hoc tests with Bonferroni Corrections indicated that each group significantly differed from each another (see Table 8).

## Results

### *Missing Data and Preliminary Analyses*

Participants completed all measures but occasionally failed to complete them in full. To minimize data loss, missing scores were replaced with the item mean for the sample when 10% or fewer of the questions in each measure were not completed (Field, 2009). Completed questionnaires were examined by the researcher to ensure they had been completed accurately (e.g., reverse coded items rated accordingly). As a result of normality checks, a

total of five outliers ( $p = .01$ ) were removed for the Inventory of Interpersonal Problems and two for Impression Management. Examination of test statistics and histograms indicated that each test variable was normally distributed.

Chi-square tests indicated significant differences between the groups for age  $\chi^2(10) = 70.97, p < .001$  and educational background  $\chi^2(12) = 71.81, p < .001$ . As such, these demographics were entered as covariates in the main analyses. No other significant differences for demographics were found.

### *Main Analyses*

Descriptive statistics for all test variables are organised by Group and displayed in Table 6.

*Personal Need for Structure.* The ANCOVA indicated that the covariates, age and educational background, were not significantly related to Personal Need for Structure nor the factors, Response to Lack of Structure and Desire for Structure. After controlling for these demographics there was a significant main effect of Group for Personal Need for Structure and Response to Lack of Structure respectively,  $F(2, 175) = 30.98, p < .001$  and  $F(2, 175) = 30.98, p < .001$ . No significant main effect of group was found for Desire for Structure. Pairwise comparisons with Bonferroni Corrections indicated that individuals with RD had a significantly higher need for structure and were less able to respond adaptively to a lack of structure compared to both ANCD and NCs. No significant between group differences were found for the ANCD and NCs. Mean group differences are displayed in Table 8. This strategy was repeated for the remaining test variables.

*Maladaptive Perfectionism.* Age and educational background, were not significantly related to Maladaptive Perfectionism nor the factor Perceived Maladaptive Parental Style but age was significantly related to Maladaptive Self-Concern and Doubt,  $F(1, 175) = 8.86, p <$

.01. Main effects for Maladaptive Perfectionism, Perceived Parental Style and Maladaptive Self-Concern and Doubt are displayed in Table 7 and mean group differences in Table 8.

*Emotional Expressiveness.* Age and educational background, were not significantly related to Ambivalence over Emotional Expressiveness. Main effects for Emotional Expressiveness are displayed in Table 7 and mean group differences in Table 8.

*Interpersonal Functioning*<sup>8</sup>. Age and educational background, were not significantly related to Interpersonal Functioning. Main effects for Interpersonal Functioning are displayed in Table 7 and mean group differences in Table 8.

*Impression Management.* Educational background was not significantly related to Impression Management but age was,  $F(1, 173) = 7.67, p < .01$ . Main effects for Impression Management are displayed in Table 7 and mean group differences in Table 8.

---

<sup>8</sup> Levene's Tests indicated that the error variance was not equal across the groups for Interpersonal Problems and the factors Aggression, Ambivalence and Sociality. Based on the recommendations of Field (2009) ANCOVAs were run as multilevel models to take into account these variations. Because these results did not differ from those produced by conventional ANCOVAs for consistency and ease of interpretation, the latter outcomes were reported.

Table 6.

*Descriptive Statistics for all Test Variables Split by Group*

|   | <b>Normal Control</b><br>M (SD)<br>Range, N        | <b>Acute Non-Chronically<br/>Depressed</b><br>M (SD)<br>Range, N | <b>Refractory Depressed</b><br>M (SD)<br>Range, N |
|---|--|--|---|
| <b>Personal Need for<br/>Structure</b>  | <b>40.35 (8.75)</b><br><b>12 – 58, 63</b>          | <b>41.54 (8.62)</b><br><b>19 – 58, 61</b>                        | <b>49.70 (8.90)</b><br><b>31 – 66, 56</b>         |
| Desire for Structure                    | 16.36 (3.38)<br>5 – 24, 63                         | 14.72 (4.34)<br>4 – 24, 63                                       | 17.00 (4.03)<br>7 – 24, 56                        |
| Response Lack of<br>Structure           | 23.94 (6.42)<br>7 – 36, 63                         | 26.82 (5.49)<br>13 – 42, 61                                      | 32.70 (6.20)<br>19 – 42, 56                       |
| <b>Maladaptive<br/>Perfectionism</b>    | <b>50.45 (14.24)</b><br><b>27-91, 63</b>           | <b>62.45 (14.96)</b><br><b>36 – 97, 61</b>                       | <b>71.99 (15.99)</b><br><b>28 – 100, 56</b>       |
| Maladaptive Self-<br>concern and Doubt  | 30.06 (10.02)<br>14 – 51, 63                       | 38.78 (9.53)<br>21 – 60, 61                                      | 44.84 (10.56)<br>19 – 56, 56                      |
| Perceived Maladaptive<br>Parental Style | 20.38 (7.96)<br>9 – 42, 63                         | 23.68 (7.95)<br>10 – 42, 61                                      | 27.15 (8.98)<br>7 – 45, 56                        |
| <b>Emotional<br/>expressiveness</b>     | <b>65.55 (18.02)</b><br><b>26 – 101, 63</b>        | <b>84.98 (20.68)</b><br><b>37 – 124, 61</b>                      | <b>90.46 (15.75)</b><br><b>61 – 132, 55</b>       |
| <b>Interpersonal<br/>Functioning</b>    | <b>16.40 (9.52)</b><br><b>1 – 43, 58</b>           | <b>39.37 (16.27)</b><br><b>13 – 84, 61</b>                       | <b>51.36 (16.12)</b><br><b>10 – 87, 56</b>        |
| <b>Impression<br/>Management</b>        | <b>34.62 (7.24)</b><br><b>15 – 50, 63</b>          | <b>29.97 (8.73)</b><br><b>8 – 56, 61</b>                         | <b>38.00 (7.53)</b><br><b>22 – 56, 54</b>         |
| <b>Overcontrol</b>                      | <b>-27.46 (22.29)</b><br><b>-70.24 – 27.90, 63</b> | <b>5.20 (25.97)</b><br><b>52.38 – 75.23, 61</b>                  | <b>25.22 (22.25)</b><br><b>-19.34 – 62.52, 56</b> |

*Note.* M = Mean, (SD) = Standard Deviation, N = Number of participants.

Table 7.

*Main Analyses for all Test Variables*

|   | ANCOVA test<br>statistic F | Degrees of Freedom | Level of Significance          |
|---|----------------------------|--------------------|--------------------------------|
| <b>Personal Need for<br/>Structure</b>  | <b>17.81</b>               | <b>(2, 175)</b>    | <b><math>p = .001^*</math></b> |
| Desire for Structure                    | 2.91                       | (2, 175)           | $p = .06$                      |
| Response Lack of<br>Structure           | 30.98                      | (2, 175)           | $p = .001^*$                   |
| <b>Maladaptive<br/>Perfectionism</b>    | <b>31.61</b>               | <b>(2, 175)</b>    | <b><math>p = .001^*</math></b> |
| Maladaptive Self-<br>concern and Doubt  | 36.25                      | (2, 175)           | $p = .001^*$                   |
| Perceived Maladaptive<br>Parental Style | 9.28                       | (2, 175)           | $p = .001^*$                   |
| <b>Emotional<br/>expressiveness</b>     | <b>30.21</b>               | <b>(2, 174)</b>    | <b><math>p = .001^*</math></b> |
| <b>Interpersonal<br/>Functioning</b>    | <b>89.75</b>               | <b>(2, 170)</b>    | <b><math>p = .001^*</math></b> |
| <b>Impression<br/>Management</b>        | <b>9.09</b>                | <b>(2, 170)</b>    | <b><math>p = .001^*</math></b> |
| <b>Overcontrol</b>                      | <b>80.61</b>               | <b>(2, 175)</b>    | <b><math>p = .001^*</math></b> |

Note. \* = significant between-group difference

*Factor Analysis*

Table 9 indicates significant zero-order correlations between all test variables. In order to move towards an index of overcontrol, factor analysis was performed on the measures chosen to collectively represent this construct. A decision was made not to include the Perceived Maladaptive Parental Style subscale of the FMPS because it was considered to represent more of a developmental path to the acquisition of OC as opposed to OC tendencies themselves. Additionally, a decision was made not to use the Desire for Structure subscale of the PNS nor the Impression Management Scale because they were not significantly associated with any of the other measures suggesting that they are measuring unrelated constructs (Table 9).

*Data Screening.* Item-total statistics revealed five items (PNS9, PNS11, AEQ4, AEQ20 and IIP6) with a corrected item-correlation of less than .3. Based on the

recommendations of Field (2005) and Wicksell et al. (2008), these items were removed from subsequent analyses.

Table 8.

*Pairwise Comparisons with Bonferroni Corrections for all Variables*

|  | <b>Normal Control –<br/>Acute Non-<br/>Chronically Depressed</b><br>Mean Difference (SE)<br>[C.I.95%] | <b>Normal Control –<br/>Refractory Depressed</b><br>Mean Difference (SE)<br>[C.I.] | <b>Acute Non-Chronically<br/>Depressed – Refractory<br/>Depressed</b><br>Mean Difference (SE)<br>[C.I.] |
|--|---|--|---|
| <b>Patient Health<br/>Questionnaire</b>    | -10.06 (.75)***<br>[-11.87 - -8.25]   | -15.23 (.76)***<br>[-17.08 - -13.39]   | -5.17 (.77)***<br>[-7.04 - -3.31]   |
| <b>Personal Need<br/>for Structure</b>     | -1.38 (1.64)<br>[-5.34 - 2.57]  | -9.30 (1.64)***<br>[-13.26 - -5.35]  | -7.92 (1.74)***<br>[-12.12 - -3.72]   |
| Desire for<br>Structure                    | 1.29 (.73)<br>[-.46 - 3.05]   | -.50 (.73)<br>[-2.26 - 1.25]   | -1.79 (.77)<br>[-3.65 - .07]  |
| Response Lack of<br>Structure              | -2.68 (1.13)<br>[-5.41 - .06]   | -8.80 (1.13)***<br>[-11.53 - -6.07]  | -6.13 (1.20)***<br>[-9.02 - -3.23]  |
| <b>Maladaptive<br/>Perfectionism</b>       | -11.15 (2.80)***<br>[-17.90 - -4.39]  | -22.18 (2.80)***<br>[-28.94 - -15.42]  | -11.03 (2.97)**<br>[-18.20 - -3.37]   |
| Perceived<br>Maladaptive<br>Parental Style | -3.64 (1.55)*<br>[-7.38 - .09]  | -6.61 (1.55)***<br>[-10.35 - -2.87]  | -2.97 (1.64)*<br>[-6.94 - .99]  |
| Maladaptive Self-<br>Concern and<br>Doubt  | -7.50 (1.83)***<br>[-11.93 - -3.08]   | -15.56 (1.83)***<br>[-19.99 - -11.14]  | -8.06 (1.94)***<br>[-12.75 - -3.37]   |
| <b>Interpersonal<br/>Functioning</b>       | -19.65 (2.74)***<br>[-26.28 - -13.02]   | -33.58 (2.75)***<br>[-40.21 - -26.94]  | -13.93 (2.91)***<br>[-20.97 - -6.89]  |
| <b>Emotional<br/>Expressiveness</b>        | -17.87 (3.29)***<br>[-26.08 - -9.65]  | -25.43(3.38)***<br>[-33.69 - -17.17]   | -7.56 (3.41)<br>[-16.33 - -1.20]  |
| <b>Impression<br/>Management</b>           | 3.76 (1.44)**<br>[.28 - 7.24]   | -2.79 (1.46)*<br>[-6.31 - .73]   | -6.55 (1.54)***<br>[-10.28 - -2.81]   |
| <b>Over-Control<br/>Composite</b>          | -29.74 (4.31)***<br>[-26.99 - -10.68]   | -54.35 (4.31)***<br>[-41.77 - -25.37]  | -24.61 (4.58)***<br>[-23.44 - -6.03]  |

Note. \*\*\* =  $p < .001$ , \*\* =  $p < .01$ , \* =  $p < .05$ . SE = Standard Error, C.I = 95% Confidence Interval, lower – upper bound.

Table 9.

*Zero-order Correlations between Test Variables*

|   | 1. | 2.   | 3.    | 4.    | 5.    | 6.    | 7.    | 8.    | 9.   |
|---|----|------|-------|-------|-------|-------|-------|-------|------|
| <b>1. Emotional Expressiveness</b>      | 1  | .18* | -.13  | .32** | .64** | .55** | .58** | .32** | -.13 |
| <b>2. Personal Need for Structure</b>   |    | 1    | .93** | .77** | .39** | .28** | .36** | .08   | .07  |
| 3. Desire for Structure                 |    |      | 1     | .48** | -.05  | -.07  | .01   | -.15  | .12  |
| 4. Response Lack Structure              |    |      |       | 1     | .57** | .43** | .46** | .20** | .02  |
| <b>5. Interpersonal Functioning</b>     |    |      |       |       | 1     | .55** | .56** | .32** | -.10 |
| <b>6. Maladaptive Perfectionism</b>     |    |      |       |       |       | 1     | .89** | .80** | -.10 |
| 7. Maladaptive Self-Concern and Doubt   |    |      |       |       |       |       | 1     | .56** | -.10 |
| 8. Perceived Maladaptive Parental Style |    |      |       |       |       |       |       | 1     | -.06 |
| <b>9. Impression Management</b>         |    |      |       |       |       |       |       |       | 1    |

Note. \*\* =  $p < .001$ , \* =  $p < .01$ . Number of participants ranges from 175-180.

*Preliminary Analysis.* The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO; .89), indicated good factorability of the correlation matrix (Hutcheson & Sofroniou, 1999). Furthermore, Bartlett's test of sphericity was significant, approximate Chi-Square (2211) = 8372.43,  $p < .001$ . In sum, these tests confirmed that factor analysis was suitable for these data. The measure was shown to have an excellent level of internal consistency (Cronbach's  $\alpha = .97$ ).

*Main Analyses.* A maximum likelihood analysis (MLA) was conducted on the 68 items specifying a one factor solution in order to identify the common variance. The extracted factor accounted for 32.58% of the total variance and analysis of the factor matrix indicated that items PNS8, PNS12, AEQ2, AEQ3, AEQ5, AEQ13, AEQ15, AEQ16, IIP7, IIP16, IIP20, IIP26, IIP30, IIP39 and IIP42 did not have factor loadings greater than .40. Thus, in order to reduce the risk of factor interpretation problems, these items were removed (Wicksell et al. 2008).



Following removal of the above items, the KMO was repeated, resulting in a statistic of .92. Additionally, Bartlett's test of sphericity was significant, approximate Chi-Square (1431) = 6685.10,  $p < .001$ . Thus, MLA was repeated using the 53-item version and the extracted factor increased and accounted for 38.01% of the total variance (see Appendix RA). The rotated factor loadings, all greater than .40, are displayed in tabulated form in Appendix RB). The composite measure of Over-Control (53) indicated an excellent level of internal consistency (Cronbach's  $\alpha = .97$ ).

### *Overcontrol*

Based on the findings from the factor analysis, standardised z-scores for the 53-items taken from the PNS, AEQ, FMPS and IIP were calculated and summed to create a composite measure of Overcontrol. An ANCOVA was completed to determine whether there was a significant main effect of Group on Overcontrol after controlling for the effects of age and educational background. Educational background was not significantly related to Overcontrol but age was indicating that increased age was related to increased levels of OC,  $F(1, 175) = 8.37, p < .01$ . After controlling for the covariates, there was a significant main effect of Group on Overcontrol,  $F(2, 175) = 80.61, p < .001$ . As predicted, pairwise comparisons with Bonferroni Corrections indicated that individuals with RD had significantly higher levels of Overcontrol compared to ANCD individuals and NCs. Additionally, the ANCD group had significantly higher levels of OC compared to the NC group, indicating that all groups could be differentiated from each other. Mean differences are displayed in Table 8. Finally, a significant positive correlation was found between Overcontrol and Perceived Maladaptive Parental Style,  $r = .40, p < .01$ , indicating that sociobiographic history is related to control tendencies.

## **Discussion**

The present study examined whether individuals with refractory depression differed in (a) levels of overcontrol tendencies and (b) sociobiographic history compared to individuals with acute non-chronic depression and normal controls. As such, this was the first study to systematically measure and compare levels of overcontrol as defined by Lynch and colleagues (e.g., Lynch & Cheavens, 2008; Lynch, Hempel, & Clark, in press) in three different populations. In general, the results supported the study prediction that individuals with RD had significantly higher levels of OC – characterised by personal need for structure (total measure, desire for structure and response to lack of structure subscales), maladaptive perfectionism (doubt about actions and concern over mistakes) and impaired interpersonal functioning – compared to individuals with ANCD and NCs. Although individuals with RD and ANCD had significantly higher levels of ambivalent emotional expressiveness compared to healthy controls, only a non-significant trend in the predicted direction was identified between the RD and ANCD groups. As such, future studies should focus on characterising this aspect of OC in more detail. Contrary to expectation, the RD group did not significantly differ from the NC group on levels of impression management, however, a non-significant trend in the predicted direction was observed.

Of particular interest is the fact the ANCD group had significantly higher levels of OC characterised by ambivalent emotional expressiveness, impaired interpersonal functioning and maladaptive perfectionism compared to NCs. Additionally, a consistent marginal effect was found for the Response to Lack of Structure subscale of the PNS questionnaire. These findings suggest that self-control exists on a continuum, with high levels being maladaptive and associated with more complex courses of depression. Combined with research evidencing low levels of self-control with externalising disorders such as BPD (e.g.,

Rosenthal et al., 2008), these findings contradict traditional linear theories (e.g., Baumeister, Heatherton, & Tice, 1994; Block and Block, 1980 ) as both severe under and overcontrol is associated with more extreme expressions of pathology (e.g., Eisenberg et al. 2000). To further support this finding, all three groups significantly differed from each other on the composite measure of Overcontrol created within this study (secondary research aim).

The Biosocial Theory for Overcontrolled Disorders (Figure 1; Lynch & Cheavens, 2008) posits that sociobiographic history (‘nurture’) characterised by a family environment emphasising mistakes as intolerable and self-control as imperative, along with genetic and temperamental factors (‘nature’), could explain a developmental route to the acquisition of maladaptive OC tendencies (‘coping’). The Parental Expectations and Parental Criticism subscales of the FMPS were therefore considered to broadly represent this environmental construct and were combined to create a Perceived Maladaptive Parental Style factor. Results indicated that the RD group reported significantly higher levels of parental criticism and maladaptive parental expectations compared to NCs. In addition, non-significant trends in the predicted direction were found between the RD and ANCD and ANCD and NC groups. As such, these findings suggest that higher levels of perceived maladaptive parental expectations and criticism are related to the severity of depression. In addition, the significant positive association between Perceived Maladaptive Parental Style and Overcontrol provides provisional support for one aspect of the developmental route to the acquisition of maladaptive OC tendencies specified by Lynch and Cheavens’ model of OC. Given the cross-sectional nature of this study, however, no causal inferences can be made.

Finally, the results indicated that the ages and educational histories of the groups significantly differed from each other. Examination of participant demographics indicated that roughly 80% of individuals in the RD group were over 36-years compared to approximately 30% of individuals in the ANCD and NC groups (Table 2). In terms of

educational background, the numbers of individuals having completed higher education is similar across the groups; however, considerably more individuals in the ANCD and NC groups were either completing or had completed postgraduate training. This could be indicative of the different recruitment procedures used for the groups or could be that chronic, unremitting courses of depression interfered with the RD groups educational goals.

In general, these findings offer support for two aspects of the Biosocial Theory of Overcontrol (nurture and coping) conceptualised by Lynch and Cheavens (2008) and develop traditional linear theories of self-control by demonstrating that overcontrol is not only associated with internalising disorders such as depression but more persistent manifestations of pathology. Limitations of the study, directions for future research and clinical implications will be considered in turn below.

### *Limitations*

Despite its merits, the present study has several methodological shortcomings that warrant consideration. First, the study's cross-sectional design meant that causal inferences could not be drawn. Thus, in spite of the findings supporting a theoretically meaningful model of OC (Lynch and Cheavens, 2008), the direction of these relationships could not be determined. Therefore, in order to establish the causal links between these components, longitudinal studies using outcome data would need to be conducted in the future. Second, because the current study relied on self-report data the scores for the depressed groups could reflect the negative self-focus and memory bias (e.g., Pyszczynski, Hamilton, Herring & Greenberg, 1987) commonly seen in individuals with mood disorders. As such, future research should consider including reports from other individuals known to participants (e.g., family members, clinicians, friends etc.) to verify accounts. Third, unlike the RD group, the screening procedure for the ANCD and NC groups was not as rigorous with participants

having no direct contact with a researcher. Thus, despite adopting conservative criteria to help ensure participants in the ANCD group did meet the DSM-IV criteria for depression, all information was self-report and might, therefore, not be fully representative. In addition, a diagnosis of a personality disorder (PD) for participants in the ANCD and NC groups was determined by self-report accounts and could, therefore, be unreliable. For example, in view of the well documented stigma surrounding PDs (e.g., Aviram, 2006), participants may have been unwilling to share this information or be unaware of a diagnosis made previously by a healthcare professional. As such, in order to ensure the validity of groups, future screening procedures should be the same across groups and should include direct contact with a researcher/clinician. Fourth, to date, no gold-standard measure of OC exists so a collection of measures believed to represent aspects of this construct were used in the present study. Despite running a preliminary factor analysis, it is possible that the measure used to represent OC might not be fully representative of this construct and that the individual measures only partly tap this construct. As such, further investigation including the refinement and validation of measures is required. Fifth, the significant group differences observed for the demographic variables – age and educational background – indicates that the groups were not equivalent. As a result, we cannot be confident that the between-group differences observed on test variables were not a result of these differences as opposed to maladaptive personality traits and over learned self-control tendencies. Therefore, future studies should aim to control for this confound by matching participants on demographics across groups. Most critically, previous research indicates that it is maladaptive to over or under control emotional responding as both relate to pathology and deficits in social relations (quadratic relationship; Eisenberg et al. 2000). Therefore, it is possible that individuals with RD are not simply overcontrolled but more extreme in their responses generally (i.e., fluctuate up and down the continuum). Because this study excluded individuals with Cluster B undercontrolled PDs, it

has not been possible to explore this assertion and should, therefore, be explored in future research.

### *Future Research*

Given the infancy of OC research, despite making a valuable contribution to the evidence base, this study has highlighted several directions for future research. First, in order to establish the causal links between the variables tested in the current study, longitudinal studies using outcome data would need to be conducted. This could help determine the relationships between the genetic (nature) and environmental (nurture) components of this model and whether OC (coping) acts as a mediator between these and maladaptive functioning (pathology). This would advance understanding of the nature of internalising disorders such as RD by indicating how they are developed and maintained. Furthermore, an understanding of the mechanisms through which a treatment operates should result in a more powerful and efficient intervention (Kraemer, Wilson, Fairburn & Agras, 2002). As such, these findings could have significant implications for how OC disorders such as RD are treated clinically (e.g., targeting features of OC as opposed to symptomatology). Thus, a reasonable next step would be to examine the effectiveness of Radically Open DBT for the treatment of RD. Furthermore, given that no gold-standard measure of OC currently exists, future research is also required to develop an assessment tool designed to represent this construct or to further refine and validate the preliminary measure created in this study. This would help determine its predictive ability and sensitivity to change for use in future outcome trials. Finally, it would be informative to know whether differences between individuals with RD and other depressive groups exist, such as individuals who have recovered from depression or responded well to treatment. Therefore, future studies should consider

recruiting alternative control groups as this would help further our understanding of the nature of RD.

### *Theoretical and Clinical Implications*

This research has several important theoretical and clinical implications. First, in contrast to the well-established categorical classification of disorders (e.g., DSM-IV), findings from the present study suggest that disorders might be better conceptualised along the continuum of over and undercontrol (i.e., internalising/externalising). This would address the issue of arbitrary and unstable boundaries between normal and abnormal functioning which fail to account for high heterogeneity among persons sharing the same categorical diagnosis or high rates of diagnostic comorbidity (Widiger & Trull, 2007). This in turn would prompt existing treatment guidelines to consider interventions designed to address maladaptive personality traits and issues of control as opposed to specific symptomatology. Given the growing prevalence of disorders such as RD, an understanding of how to treat them effectively would not only have significant benefits for patients but considerable cost implications for the NHS.

### *Conclusions*

Irrespective of its limitations, the present study provided exciting new insight into the OC tendencies of individuals with differing manifestations of depression. The examination of the phenotypic component of the novel Biosocial Theory of Overcontrol (Lynch & Cheavens, 2008) suggested that overcontrol can be understood in terms of deficits in three anticipated areas; i) the expression and experience of emotion, ii) in forming relationships and iii) receptivity and openness. More specifically, the study indicated that overcontrol is not only related to pathology (i.e., depression) but to the severity of the disorder (acute non-chronic

versus chronic or treatment resistant courses). In addition, it provided provisional support for one aspect of the developmental route – sociobiographic history (‘nurture’) – to the acquisition of maladaptive OC tendencies (‘coping’).



## References

- American Psychological Association (1980). *Diagnostic and statistical manual of mental disorders* (3<sup>rd</sup> ed.) Washington DC: Author.
- Aviram, R. B., Brodsky, B. S., & Stanley, B. (2006). Borderline personality disorder, stigma and treatment implications. *Harvard Review of Psychiatry*, 14, 249-256.
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego: Academic.
- Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organisation of behaviour. In W. A. Collins (Ed), *Development of cognition, affect, and social relations: Minnesota Symposia on Child Psychology* (Vol. 13, p. 48). Hillsdale, NJ: Erlbaum.
- Blom, M. B. J., Jonker, K., Dusseldorp, E., Spinhoven, P., Hoencamp, E., Haffmans, J., et al. (2007). Combination treatment for acute depression is superior only when psychotherapy is added to medication. *Psychotherapy and Psychosomatics*, 76, 289–297.
- Candrian, M., Schwartz, F., Farabaugh, A., Perlis, R. H., Ehlert, U., Fava, M. (2008). Personality disorders and perceived stress in major depressive disorder. *Psychiatry Research*, 160, 184–191.
- Cohen J. 1988. *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey: Erlbaum.
- Crijnen, A. A. M., Achenbach, T. M., & Verhulst, F. C. (1997). Comparisons of problems reported by parents of children in 12 cultures: Total problems, externalizing and internalizing. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 1269–1277.
- Eisenberg, N., Fabes, R., Guthrie, I. & Reiser, M. (2000). Dispositional emotionality and regulation: Their role in predicting quality of social functioning. *Journal of Personality and Social Psychology*, 78, 136-157.

- Fava, M., Farabaugh, A. H., Sickinger, A. H., Wright, E., Alpert, J. E., Sonawalla, S., et al. (2002). Personality disorders and depression. *Psychological Medicine*, 32, 1049–1057.
- Field, A. (2005). *Discovering statistics using SPSS*. London: Sage.
- First, M. B., Gibbon, M., Spitzer, R. L., Williams, J. B. W., Benjamin, L. S. (1997). *Structured clinical interview for DSM-IV axis II personality disorders, (SCID-II)*. Washington, D.C: American Psychiatric Press.
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B.W. (2002). *Structured clinical interview for DSM-IV-TR axis I disorders, Research Version, Patient Edition. (SCID-I/P)* New York: Biometrics Research.
- Fournier, J. C., DeRubeis, R. J., Shelton, R. C., Hollon, S. D., Amsterdam, J. D., & Gallop, R. (2009). Prediction of response to medication and cognitive therapy in the treatment of moderate to severe depression. *Journal of Counselling and Clinical Psychology*, 77, 775–787.
- Frank, E., Kupfer, D. J., Perel, J. M., Cornes, C., Jarrett, D. B., Mallinger, A. G., et al. (1990). Three year outcomes for maintenance therapies in recurrent depression. *Archives of General Psychiatry*, 47, 1093-9.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 3, 134-151.
- Goldberg, D., Privett, M., Ustun, B., Simon, G., & Linden, M. (2003). The effects of detection and treatment on the outcome of major depression in primary care: A naturalistic study in 15 cities. *British Journal of General Practice*, 48, 1840 – 1844.
- Hart, C. M., Ritchie, T., Hepper, E. G., & Gebauer, J. (in prep). The Balanced Inventory of Desirable Responding Short Form: Reliability, validity and factor structure.
- Howland, R. H. (1993). Chronic depression. *Hospital Community Psychiatry*, 44, 633-9.
- Hutcheson, G. and Sofroniou, N. (1999). *The multivariate social scientist*. London: Sage Publications, Inc.

- Joyce, P. R., Mulder, R. T., Luty, S. E., Sullivan, P. F., McKenzie, J. M., Abbott, R. M., et al. (2002). Patterns and predictors of remission, response and recovery in major depression treated with fluoxetine or nortriptyline. Australian and New Zealand *Journal of Psychiatry*, 36, 384–391.
- Judd, L., Akiskal, H. S., Paulus, M. P. (1997). The role and clinical significance of subsyndromal depressive symptoms (SSD) in unipolar major depressive disorder. *Journal of Affective Disorders*. 45, 5-18.
- Kim, Y. & Pilkonis, P. (1999). Selecting the most informative items in the IIP scales for personality disorders: an application of item response theory. *Journal of Personality Disorder*, 13, 157-174.
- King, L. A., & Emmons, R. A. (1990). Conflict over emotional expression: Psychological and physical correlates. *Journal of Personality & Social Psychology*, 58, 864-877.
- Klein, D. N., Norden, K. A., Ferro, T, et al. (1998). Thirty-month naturalistic follow-up study of early-onset dysthymic disorder: course, diagnostic stability and prediction of outcome. *Journal of Abnormal Psychology*, 107, 338-48.
- Kraemer, H. C., Wilson, T., Fairburn, C. G., & Agras, W. S. (2002). Mediators and moderators of treatment effects in randomized clinical trials. *Archives of General Psychiatry*, 59, 877–883.
- Kroenke, K., Spitzer, R. L., Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16, 606–613.
- Kupfer, D. J., Frank, E., Perel, J. M., Cornes, C., Mallinger, A. G., Thase, M. E., et al. (1992). Five year outcomes for maintenance therapies in recurrent depression. *Archives of General Psychiatry*, 49, 769-73.
- .Linehan, M. M. (1993). *Cognitive-behavioural treatment of borderline personality disorder*. New York, Guildford Press.
- Lynch, T. R., Barnsley, M., Hempel, R. J., & Clark, L. A. (in prep.) A transdiagnostic neuro- regulatory model of socio-emotional functioning.
- Lynch, T. R., & Cheavens, J. (in press). *Dialectical behaviour therapy for treatment resistant depression*. New York: Guilford Press.

- Lynch, T. R., Cheavens, J. S., Cukrowicz, K. C., Thorp, S., Bronner, L., & Beyer, J. (2007). Treatment of older adults with co-morbid personality disorder and depression: A Dialectical Behaviour Therapy approach. *International Journal of Geriatric Psychiatry*, 22, 131-143.
- Lynch, T. R., Gray, K. L. H., Hempel, R. J., Titley, M., Chen, E. Y., O'Mahen, H. (under review). Feasibility and outcomes of an adapted Dialectical Behavior Therapy inpatient program for the treatment of adult Anorexia Nervosa. *BMC Psychiatry*.
- Lynch, T. R., Hempel, R. J., & Clark, L. A. (in press.) Flexibility and radical openness: facilitating self-inquiry in overcontrolled personality disorders. In J. Livesley, G. Dimaggio & J. Clarkin (Eds.) *Integrated Treatment of Personality Disorder*. Guilford Press.
- Lynch, T. R., Morse, J. Q., Mendelson, T., Robins, C. J. (2003). Dialectical Behaviour Therapy for depressed older adults: A randomised pilot study. *The American Journal of Geriatric Psychiatry*, 11, 1-13.
- McPherson, S., Cairns, P., Carlyle, J., Shapiro, D., Richardson, P., & Taylor, D. (2005). The effectiveness of psychological treatments for treatment-resistant depression: a systematic review. *Acta Psychiatrica Scandinavica*, 111, 331–340.
- Meeus, W., Van De Schoot, R., Keijsers, L., Schwartz, S. J., & Branje, S. (2010). On the Progression and Stability of Adolescent Identity Formation: A Five-Wave Longitudinal Study in Early-to-Middle and Middle-to-Late Adolescence. *Child Development*, 81, 1565-1581
- Miller, I. W., Keitner, G. I., Schatzberg, A. F., et al. (1998). The treatment of chronic depression: Psychosocial functioning before and after treatment with sertraline or imipramine. *Journal of Clinical Psychiatry*, 59, 608-19.
- Moussavi, S., Chatterji, S., Verdes, E., Tandon, A., Patel, V., & Ustun, B. (2007). Depression, chronic diseases, and decrements in health. *The Lancet*, 370, 851–858.
- Murray, C., & Lopez, A. (1997). Alternative projections of mortality and disability by cause 1990-2020. *The Lancet*, 349, 1498–1504
- National Institute for Health and Clinical Excellence. (2007). *Depression: the treatment and*

*management of depression in adults*. London: NICE.

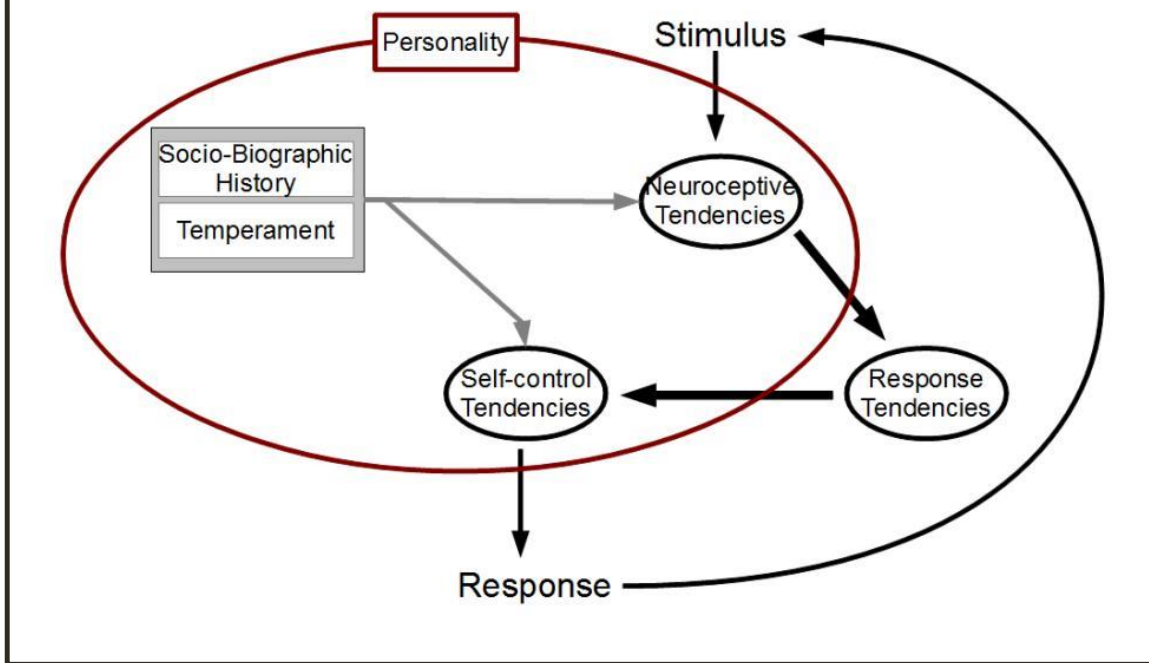
- Neuberg, S. L., & Newsom, J. T. (1993). Personal Need for Structure: Individual differences in the desire for simple structure. *Journal of Personality and Social Psychology*, 65, 113-131.
- Pepper, C. M., Klein, D. N., Anderson, R. L., Riso, L. P., Ouimette, P. C., Lizardi, H. DSM-III-R axis II comorbidity in dysthymia and major depression. *American Journal of Psychiatry*, 15, 239–247.
- Pilkonis, P. A., & Frank, E. (1988). Personality pathology in recurrent depression: Nature, prevalence, and relationship to treatment response. *The American Journal of Psychiatry*, 145, 435–441.
- Riso, L. P., Miyatake, R. K., Thase, M. E. (2002). The search for determinants of chronic depression: a review of six factors. *Journal of Affective Disorders*, 70, 103–115.
- Rosenthal M.Z., Kim, K., Herr, N.R., Smoski, M.J., Cheavens, J.S., Lynch, T.R., & Kosson, D.S. (under review). Emotional Sensitivity in Avoidant Personality Disorder: Speed and Accuracy of Facial Expression Classification.
- Rush, A. J., Trivedi, M. H., Wisniewski, S. R., Nierenberg, A. A., Stewart, J. W., Warden, D., et al. (2006). Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: A STAR\*D report. *American Journal of Psychiatry*, 163, 1905-17.
- Shea, M.T., Pilkonis, P. A., Beckham, E., Collins, J. F. (1990). Personality disorders and treatment outcome in the NIMH Treatment of Depression Collaborative Research Program. *The American Journal of Psychiatry*, 147, 711–718.
- Weissman, M. M., Leaf, P. J., Bruce, M. L., Florio, L. (1988). The epidemiology of dysthymia in five communities: rates, risks, comorbidity, and treatment. *American Journal of Psychiatry*, 145, 815-9.
- Wells, K. B., Burnam, M. A., Rogers, W., Hays, R., Camp, P. (1992). The course of depression in adult outpatients: results from the Medical Outcomes Study. *Archives of General Psychiatry*, 49, 788-94.

- Wicksell, R. K., Reofalt, J., Olsson, G. L., Bond, F., & Melin, L. (2008). Avoidance and cognitive fusion – Central components in pain related disability? Development and preliminary validation of the Psychological Inflexibility in Pain Scale (PIPS). *European Journal of Pain*, 12, 491-500.
- Williams, J., Kobak, K., Bech, P., Engelhardt, N., Evans, K., Lipsitz, J., et al. (2008). The GRID-HAMD: standardization of the Hamilton Depression Rating Scale. *International clinical psychopharmacology*. *International clinical psychopharmacology*, 23, 120–129.
- Zimmerman, M., Sheeran, T., & Young, D. (2004). The diagnostic inventory for depression: a self-report scale to diagnose DSM-IV major depressive disorder. *Journal of Clinical Psychology*, 60, 87-110.

## APPENDICES

## APPENDIX A – MODEL

Figure 1 **Neuroregulatory model for personality and socio-emotional functioning**



Taken from Lynch, Barnsley, Hempel and Clark (in press.)



## APPENDIX B – MEASURES

University of Pennsylvania Medical Center  
Center for Psychotherapy Research

### STRUCTURED INTERVIEW GUIDE FOR THE HAMILTON PSYCHIATRIC RATING SCALE FOR DEPRESSION SIGH-D\*

#### 17 Item -Revised

OVERVIEW: I'd like to ask you some questions **about the past week**. How have you been feeling since last (DAY OF WEEK)?

#### 1. DEPRESSED MOOD

What's your mood been like this past week?

DEPRESSED MOOD (sadness, hopeless, helpless, worthless) :

Have you been feeling down or depressed?

- 0 – absent
- 1 – these feeling states indicated only on questioning
- 2 – these feeling states spontaneously reported verbally
- 3 – communicated feeling states non-verbally, i.e., facial expression, posture, voice, tendency to weep
- 4 – patient reports VIRTUALLY ONLY these feeling states in his spontaneous verbal and non-verbal communication

Sad? Hopeless?

In the last week, how often have you felt (OWN EQUIVALENT)? Every day? All day?

Have you been crying at all?

IF SCORED 1-4 ABOVE, ASK: How long have you been feeling this way?

#### 2. FEELINGS OF GUILT

Have you been especially critical of yourself this past week, feeling you've done things wrong, or let others down? IF YES: What have your thoughts been?

FEELINGS OF GUILT:

Have you been feeling guilty about anything that you've done or not done?

- 0 – absent
- 1 – self-reproach, feels he has let people down
- 2 – ideas of guilt or rumination over past errors or sinful deeds
- 3 – present illness is a punishment. Delusions of guilt
- 4 – hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations

Have you thought that you've brought (THIS DEPRESSION) on yourself in some way?

Do you feel you're being punished

by being sick?

### **~~3. SUICIDE~~**

---

This past week, have you had any thoughts that life is not worth living, or that you'd be better off dead? What about having thoughts of hurting or even killing yourself?

IF YES: What have you thought about? Have you actually done anything to hurt yourself?

SUICIDE:

- 0 – absent
- 1 – feels life is not worth living
- 2 – wishes he were dead or any possible thoughts of death to self
- 3 – suicidal ideas of gesture
- 4 – attempts at suicide

### **4. INSOMNIA EARLY**

How have you been sleeping over the last week?

Have you had any trouble falling asleep at the beginning of the night? (Right after you go to bed, how long has it been taking you to fall asleep?)

How many nights this week have you had trouble falling asleep?

INSOMNIA EARLY:

- 0 – no difficulty falling asleep
- 1 – complains of occasional difficulty falling asleep - i.e., more than ½ hour
- 2 – complains of nightly difficulty falling asleep

### **5. INSOMNIA MIDDLE**

During the past week, have you been waking up in the middle of the night?

IF YES: Do you get out of bed (except to void)? What do you do? (Only to go to the bathroom?)

When you get back in bed, are you able to fall right back asleep?

Have you felt your sleeping has been restless or disturbed some nights?

INSOMNIA MIDDLE:

- 0 – no difficulty
- 1 – complains of being restless and disturbed during the night
- 2 – waking during the night - any getting out of bed rates 2 (except for purposes of voiding)

### **6. INSOMNIA LATE**

What time have you been waking up in the morning for the last time, this past week?

INSOMNIA LATE:

- 0 – no difficulty

IF EARLY: Is that with an alarm clock, or do you just wake up by yourself? What time do you usually wake up (that is, before you got depressed)?

- 1 – waking in early hours of morning but goes back to sleep
- 2 – unable to fall asleep again if gets out of bed

---

## 7. WORK AND ACTIVITIES

How have you been spending your time this past week (when not at work)?

Have you felt interested in doing (THOSE THINGS), or do you feel you have to push yourself to do them?

Have you stopped doing anything you used to do? IF YES: Why?

Is there anything you look forward to?

(AT FOLLOW-UP: Has your interest been back to normal?)

### WORK AND ACTIVITIES:

- 0 – no difficulty
- 1 – thoughts and feelings of incapacity, fatigue or weakness related to activities, work or hobbies
- 2 – loss of interest in activity, hobbies, or work – either directly reported by the patient or indirect in listlessness, indecision and vacillation (feels he/she has to push self to work or engage in activities)
- 3 – decrease in actual time spent in activities or decrease in productivity. In hosp. pt. spends less than 3 hrs/day in activities (hospital job or hobbies) exclusive of ward chores
- 4 – stopped working because of present illness. In hospital, no activities except ward chores, or fails to perform ward chores unassisted

## 8. RETARDATION

RATING BASED ON OBSERVATION DURING INTERVIEW

RETARDATION (slowness of thought and speech; impaired ability to concentrate; decreased motor activity):

- 0 – normal speech and thought
- 1 – slight retardation at interview
- 2 – obvious retardation at interview
- 3 – interview difficult
- 4 – complete stupor

## 9. AGITATION

RATING BASED ON OBSERVATION DURING INTERVIEW

AGITATION:

- 0 – none

- 1 – fidgetiness
- 2 – playing with hands, hair, etc.
- 3 – moving about, can't sit still
- 4 – hand-wringing, nail biting, hair-pulling, biting of lips

## 10. **ANXIETY PSYCHIC**

Have you been feeling especially tense or irritable this past week?

Have you been worrying a lot about little unimportant things, things you wouldn't ordinarily worry about? IF YES: Like what, for example?

## 11. **ANXIETY SOMATIC**

In this past week, have you had any of these physical symptoms?  
READ LIST TO THE RIGHT, PAUSING  
AFTER EACH SIX FOR REPLY.

How much have these things been bothering you this past week?  
(How bad have they gotten? How much of the time, or how often, have you had them?)

\_\_\_\_\_

RATE HERE IF SYMPTOMS ARE PRESENT  
BUT RELATED TO ANOTHER CAUSE

\_\_\_\_\_ is present but  
attributed to \_\_\_\_\_

Rating if included:

0    1    2    3    4

\_\_\_\_\_

## 12. **SOMATIC SYMPTOMS – GASTROINTESTINAL**

How has your appetite been this GASTROINTESTINAL:  
past week? (What about compared

### ANXIETY PSYCHIC:

- 0 – no difficulty
- 1 – subjective tension and irritability
- 2 – worrying about minor matters
- 3 – apprehensive attitude apparent in face or speech
- 4 – fears expressed without questioning

ANXIETY SOMATIC - physiologic concomitants of anxiety, such as  
GI – dry mouth, gas, indigestion, diarrhea, cramps, belching

C-V – heart palpitations, headaches,  
Resp-hyperventilating, sighing,  
Having to urinate frequently,  
Sweating:

- 0 – absent
- 1 – mild
- 2 – moderate
- 3 – severe
- 4 – incapacitating

### SOMATIC SYMPTOMS

to your usual appetite?)

0 – none

Have you had to force yourself to eat?

1 – loss of appetite but eating without encouragement

Have other people had to urge you to eat?

2 – difficulty eating without urging

**YOU MAY WANT TO GO AHEAD AND RATE ITEMS #16 “LOSS OF WEIGHT”, AND #26 “HYPERPHAGIA”, AND #27 “WEIGHT GAIN” AT THIS TIME**

---

### 13. SOMATIC SYMPTOMS – GENERAL

How has your energy been this past week?

Have you been tired all the time?

This week, have you had any back-aches, headaches, or muscle aches?

This week, have you felt any heaviness in your limbs, back or head?

Has it interfered with any activities?

SOMATIC SYMPTOMS GENERAL:

0 – none

1 – some heaviness in limbs, back or head. Backaches, headaches, muscle aches. Loss of energy and fatigability.

2 – severe enough to interfere with work, hobbies, or other activities.

RATE HERE IF SYMPTOMS ARE PRESENT BUT RELATED TO ANOTHER CAUSE  
\_\_\_\_\_ is present but attributed to \_\_\_\_\_

Rating if included:

0    1    2    3    4

### 14. GENITAL SYMPTOMS

How has your interest in sex been this week? (I'm not asking about performance, but about your interest in sex – how much you think about it.)

Has there been any change in your interest in sex (from when you were not depressed)?

Is it something you've thought much about? IF NO: Is that unusual for you?

GENITAL SYMPTOMS (such as loss of libido, menstrual disturbances):

0 – absent

1 – mild

2 – severe

### 15. HYPOCHONDRIASIS

In the last week, how much have your thoughts been focused on your physical health or how your body is working (compared to your normal thinking)?

Do you complain much about how you feel physically?

HYPOCHONDRIASIS:

0 – not present

1 – self-absorption (bodily)

2 – preoccupation with health

3 – frequent complaints, requests for help, etc.

4 – hypochondriacal delusions

Have you found yourself asking for help with things you could really do yourself? IF YES: Like what, for example? How often has this happened?

## 16. LOSS OF WEIGHT

Have you lost any weight since this (DEPRESSION) began? IF YES: How much?

IF NOT SURE: Do you think your clothes are any looser on you?

AT FOLLOW-UP: Have you gained any of the weight back?

LOSS OF WEIGHT (Rate either A or B):

A. When rating by history:

- 0 – no weight loss
- 1 – probable weight loss associated with present illness
- 2 – definite (according to patient) weight loss

B. On weekly ratings by ward staff, when actual weight changes are measured:

- 0 – less than 1 lb. loss in week
- 1 – more than 1 lb. loss in week
- 2 – more than 2 lb. loss in week
- 3 – not assessed

## 17. INSIGHT

RATING BASED ON OBSERVATION

INSIGHT:

- 0 – acknowledges being depressed and ill OR not currently depressed
- 1 – acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest, etc.
- 2 – denies being ill at all

TOTAL 17-ITEM HAMILTON DEPRESSION SCORE: \_\_\_\_\_

## Nine Symptom Checklist\*

Name \_\_\_\_\_

Date \_\_\_\_\_

Over the last 2 weeks, how often have you been bothered by any of the following problems?

|  | Not at<br>all | Several<br>days | More<br>than<br>half the<br>days | Nearly<br>every<br>day |
|--|---------------|-----------------|----------------------------------|------------------------|
| 1. Little interest or pleasure in doing things.....  | 0             | 1               | 2                                | 3                      |
| 2. Feeling down, depressed, or hopeless.....   | 0             | 1               | 2                                | 3                      |
| 3. Trouble falling or staying asleep, or sleeping too much.....  | 0             | 1               | 2                                | 3                      |
| 4. Feeling tired or having little energy.....  | 0             | 1               | 2                                | 3                      |
| 5. Poor appetite or overeating.....  | 0             | 1               | 2                                | 3                      |
| 6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down.....  | 0             | 1               | 2                                | 3                      |
| 7. Trouble concentrating on things, such as reading the newspaper or watching television.....  | 0             | 1               | 2                                | 3                      |
| 8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual..... | 0             | 1               | 2                                | 3                      |
| 9. Thoughts that you would be better off dead or of hurting yourself in some way.....  | 0             | 1               | 2                                | 3                      |

(For office coding: Total Score \_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_)

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult  
at all

☐

Somewhat  
difficult

☐

Very  
difficult

☐

Extremely  
difficult

☐



Name: \_\_\_\_\_ Date: \_\_\_\_\_ ID #: \_\_\_\_\_

**INSTRUCTIONS:** This questionnaire is about how you have been feeling during the past week. After each question there are 5 statements (numbered 0-4). Read all 5 statements carefully. Then decide which one best describes how you have been feeling. Choose only one statement per group. If more than one statement in a group applies to you, choose the one with the higher number.

- (1) **During the past week, have you been feeling sad or depressed?**
- 0 No, not at all.
  - 1 Yes, a little bit.
  - 2 Yes, I have felt sad or depressed most of the time.
  - 3 Yes, I have been very sad or depressed nearly all the time.
  - 4 Yes, I have been extremely depressed nearly all the time.
- (2) **How many days in the past 2 weeks have you been feeling sad or depressed?**
- 0 No days
  - 1 A few days
  - 2 About half the days
  - 3 Nearly every day
  - 4 Every day
- (3) **Which of the following best describes your level of interest in your usual activities during the past week?**
- 0 I have not lost interest in my usual activities.
  - 1 I have been less interested in 1 or 2 of my usual activities.
  - 2 I have been less interested in several of my usual activities.
  - 3 I have lost most of my interest in almost all of my usual activities.
  - 4 I have lost all interest in all of my usual activities.
- (4) **How many days in the past 2 weeks have you been less interested in your usual activities?**
- 0 No days
  - 1 A few days
  - 2 About half the days
  - 3 Nearly every day
  - 4 Every day
- (5) **Which of the following best describes the amount of pleasure you have gotten from your usual activities during the past week?**
- 0 I have gotten as much pleasure as usual.
  - 1 I have gotten a little less pleasure from 1 or 2 of my usual activities.
  - 2 I have gotten less pleasure from several of my usual activities.
  - 3 I have gotten almost no pleasure from most of the activities that I usually enjoy.
  - 4 I have gotten no pleasure from any of the activities that I usually enjoy.
- (6) **How many days in the past 2 weeks have you gotten less pleasure from your usual activities?**

(7) **During the past week, has your energy level been low?**

- 0 No, not at all.
- 1 Yes, my energy level has occasionally been a little lower than it normally is.
- 2 Yes, I have clearly had less energy than I normally do.
- 3 Yes, I have had much less energy than I normally have.
- 4 Yes, I have felt exhausted almost all of the time.

(8) **Which of the following best describes your level of physical restlessness during the past week?**

- 0 I have not been more restless and fidgety than usual.
- 1 I have been a little more restless and fidgety than usual.
- 2 I have been very fidgety, and it has been somewhat difficult to sit still.
- 3 I have been extremely fidgety, and I have been pacing a little bit almost every day.
- 4 I have been pacing more than an hour a day, and I have been unable to sit still.

(9) **Which of the following best describes your physical activity level during the past week?**

- 0 I have not been moving more slowly than usual.
- 1 I have been moving a little more slowly than usual.
- 2 I have been moving more slowly than usual, and it takes me longer than usual to do most activities.
- 3 Normal activities are difficult because it has been tough to start moving.
- 4 I have been feeling extremely slowed down physically, like I am stuck in mud.

(10) **During the past week, have you been bothered by feelings of guilt?**

- 0 No, not at all.
- 1 Yes, I have occasionally felt a little guilty.
- 2 Yes, I have often been bothered by feelings of guilt.
- 3 Yes, I have often been bothered by strong feelings of guilt.
- 4 Yes, I have been feeling extremely guilty.

(11) **During the past week, what has your self esteem been like?**

- 0 My self-esteem has not been low.
- 1 Once in a while, my opinion of myself has been a little low.
- 2 I often think I am a failure.
- 3 I almost always think I am a failure.
- 4 I have been thinking I am a totally useless and worthless person.

(12) **During the past week, have you been thinking about death or dying?**

- 0 No, not at all.
- 1 Yes, I have occasionally thought that life is not worth living.
- 2 Yes, I have frequently thought about dying in passive ways (such as going to sleep and not waking up).
- 3 Yes, I have frequently thought about death, and that others would be better off if I were dead.
- 4 Yes, I have been wishing I were dead.

(13) **During the past week, have you been thinking about killing yourself?**

- 0 No, not at all.
- 1 Yes, I had a fleeting thought about killing myself.
- 2 Yes, several times I thought about killing myself, but I would not act on these thoughts.
- 3 Yes, I have been seriously thinking about killing myself.
- 4 Yes, I have thought of a specific plan for killing myself.

(14) **Which of the following best describes your ability to concentrate during the past week?**

- 0 I have been able to concentrate as well as usual.
- 1 My ability to concentrate has been slightly worse than usual.
- 2 My attention span has not been as good as usual and I have had difficulty collecting my thoughts, but this hasn't caused any serious problems.
- 3 I have frequently had trouble concentrating, and it has interfered with my usual activities.
- 4 It has been so hard to concentrate that even simple things are hard to do.

(15) **During the past week, have you had trouble making decisions?**

- 0 No, not at all.
- 1 Yes, making decisions has been slightly more difficult than usual.
- 2 Yes, it has been harder and has taken longer to make decisions, but I have been making them.
- 3 Yes, I have been unable to make some decisions that I would usually have been able to make.
- 4 Yes, important things are not getting done because I have had trouble making decisions.

(16) **During the past week, has your appetite been decreased?**

- 0 No, not at all.
- 1 Yes, my appetite has been slightly decreased compared to how it normally is.
- 2 Yes, my appetite has been clearly decreased, but I have been eating about as much as I normally do.
- 3 Yes, my appetite has been clearly decreased, and I have been eating less than I normally do.
- 4 Yes, my appetite has been very bad, and I have had to force myself to eat even a little.

(17) **How much weight have you lost during the past week (not due to dieting)?**

- 0 None (or the only weight I lost was due to dieting)
- 1 1-2 pounds
- 2 3-5 pounds
- 3 6-10 pounds
- 4 More than 10 pounds

(18) **During the past week, has your appetite been increased?**

- 0 No, not at all.
- 1 Yes, my appetite has been slightly increased compared to how it normally is.
- 2 Yes, my appetite has clearly been increased compared to how it normally is.
- 3 Yes, my appetite has been greatly increased compared to how it normally is.
- 4 Yes, I have been feeling hungry all the time.

(19) **How much weight have you gained during the past week?**

- 0 None
- 1 1-2 pounds
- 2 3-5 pounds
- 3 6-10 pounds
- 4 More than 10 pounds

(20) **During the past week, have you been sleeping less than you normally do?**

- 0 No, not at all.
- 1 Yes, I have occasionally had slight difficulty sleeping.
- 2 Yes, I have clearly been sleeping less than I normally do.
- 3 Yes, I have been sleeping about half my normal amount of time.
- 4 Yes, I have been sleeping less than 2 hours a night.

(21) **During the past week, have you been sleeping more than you normally do?**

- 0 No, not at all.
- 1 Yes, I have occasionally slept more than I normally do.
- 2 Yes, I have frequently slept at least 1 hour more than I normally do.
- 3 Yes, I have frequently slept at least 2 hours more than I normally do.
- 4 Yes, I have frequently slept at least 3 hours more than I normally do.

(22) **During the past week, have you been feeling pessimistic or hopeless about the future?**

- 0 No, not at all.
- 1 Yes, I have occasionally felt a little pessimistic about the future.
- 2 Yes, I have often felt pessimistic about the future.
- 3 Yes, I have been feeling very pessimistic about the future most of the time.
- 4 Yes, I have been feeling that there is no hope for the future.

| 0=no difficulty<br>difficulty | 1=mild difficulty | 2=moderate difficulty | 3=marked difficulty | 4=extreme |
|-------------------------------|-------------------|-----------------------|---------------------|-----------|
|-------------------------------|-------------------|-----------------------|---------------------|-----------|

### INSTRUCTIONS

Indicate below how much symptoms of depression have interfered with, or caused difficulties in, the following areas of your life during the past week. (Circle DNA [Does Not Apply] if you are not married or have a boyfriend/girlfriend.)

**During the PAST WEEK, how much difficulty have symptoms of depression caused in your...**

|   |       |   |   |   |   |
|---|-------|---|---|---|---|
| 23. usual daily responsibilities (at a paid job, at home, or at school).....    | 0     | 1 | 2 | 3 | 4 |
| 24. relationship with your husband, wife, boyfriend, girlfriend, or lover ..... | DNA 0 | 1 | 2 | 3 | 4 |
| 25. relationships with close family members .....                               | 0     | 1 | 2 | 3 | 4 |
| 26. relationships with your friends .....                                       | 0     | 1 | 2 | 3 | 4 |
| 27. participation and enjoyment in leisure and recreation activities .....      | 0     | 1 | 2 | 3 | 4 |

28. Overall, how much have symptoms of depression interfered with or caused difficulties in your life?

- 0) not at all
- 1) a little bit
- 2) a moderate amount
- 3) quite a bit
- 4) extremely

29. How many days during the past week were you completely unable to perform your usual daily responsibilities (at a paid

0 days      1 day      2 days      3 days      4 days      5 days      6 days      7 days

| 0=very satisfied<br>dissatisfied | 1=mostly satisfied | 2=equally satisfied/dissatisfied | 3=mostly dissatisfied | 4=very |
|----------------------------------|--------------------|----------------------------------|-----------------------|--------|
|----------------------------------|--------------------|----------------------------------|-----------------------|--------|

### INSTRUCTIONS

Indicate below your level of satisfaction with the following areas of your life (Circle DNA [Does Not Apply] if you are not married or have a boyfriend or girlfriend.)

**During the PAST WEEK how satisfied have you been with your...**

|     |   |     |   |   |   |   |   |
|-----|---|-----|---|---|---|---|---|
| 30. | usual daily responsibilities (at a paid job, at home, or at school).....    | 0   | 1 | 2 | 3 | 4 |   |
| 31. | relationship with your husband, wife, boyfriend, girlfriend, or lover ..... | DNA | 0 | 1 | 2 | 3 | 4 |
| 32. | relationship with close family members.....                                 | 0   | 1 | 2 | 3 | 4 |   |
| 33. | relationships with your friends .....                                       | 0   | 1 | 2 | 3 | 4 |   |
| 34. | participation and enjoyment in leisure and recreation activities .....      | 0   | 1 | 2 | 3 | 4 |   |
| 35. | mental health.....  | 0   | 1 | 2 | 3 | 4 |   |
| 36. | physical health .....   | 0   | 1 | 2 | 3 | 4 |   |

37. In general, how satisfied have you been with your life during the past week?

- 0) very satisfied
- 1) mostly satisfied
- 2) equally satisfied & dissatisfied
- 3) mostly dissatisfied
- 4) very dissatisfied

38. In general, how would you rate your overall quality of life during the past week?

- 0) very good, my life could hardly be better
- 1) pretty good, most things are going well
- 2) the good and bad parts are about equal
- 3) pretty bad, most things are going poorly

very bad, my life could hardly be worse

**Gender** Male/Female

**Age** \_\_\_\_Yrs\_\_\_\_mths

**Marital Status** Single

Intimate relationship but living separately

Co-habiting

Married

Separated/divorced

Widowed

### **Educational History**

Left school before 16

Left school at 16

Left school at 18

Attending higher education (e.g., university)

Completed higher education

Completed/completing postgraduate qualification

### **What is your Ethnicity?**

#### **A : White**

British

Irish

Any other White background (please write in)

#### **B : Mixed**

White and Black Caribbean

White and Black African

White and Asian

Any other mixed background (please write in)

#### **C : Asian or Asian British**

Indian

Pakistani

Bangladeshi

Any other Asian background (please write in)

**D : Black or Black British**

Caribbean

African

Any other Black background (please write in)

**E : Chinese or other ethnic group**

Chinese

Any other (please write in)

**Not stated**

Not stated \_\_\_\_\_

**Mental health history:**

Have you ever been **diagnosed** with a Major Depressive Disorder? YES/NO

If 'Yes', please provide details

Number of times

Duration of illness/es (weeks)

Treatment/support received (if any)

Have you ever been **diagnosed** with a Personality Disorder? YES/NO

If 'YES', which type?

\_\_\_\_\_  
\_\_\_\_\_

Are you currently experiencing a depressive illness?

If 'YES', please provide details:

How long have you been feeling this way (weeks)?

What treatment/support are you receiving (if any)?

**FMPS**  
(Frost et al., 1990)

Carefully read all of the instructions before beginning. The questionnaire contains 35 statements. Read each statement carefully. For each statement, fill in the response (in the box) that best represents your opinion. Make sure that your answer corresponds to the response that is most true for you.

1=Strongly Disagree

2=Disagree

3=Neutral

4=Agree

5=Strongly Agree

Please respond to all of the statements, writing only one response for each.

|   |  |  |
|---|--|--|
| 1 |  | My parents set very high standards for me. |
| 2 |  | Organization is very important to me.      |

|    |  |  |
|----|--|--|
| 3  |  | As a child, I was punished for doing things less than perfect.                                 |
| 4  |  | If I do not set the highest standards for myself, I am likely to end up a second-rate person   |
| 5  |  | My parents never tried to understand my mistakes.  |
| 6  |  | It is important to me that I be thoroughly competent in everything I do.                       |
| 7  |  | I am a neat person.  |
| 8  |  | I try to be an organized person.   |
| 9  |  | If I fail at work/school, I am a failure as a person.  |
| 10 |  | I should be upset if I make a mistake.   |
| 11 |  | My parents wanted me to be the best at everything.   |
| 12 |  | I set higher goals than most people.   |
| 13 |  | If someone does a task at work/school better than I, then I feel like I failed the whole task. |
| 14 |  | If I fail partly, it is as bad as being a complete failure.                                    |
| 15 |  | Only outstanding performance is good enough in my family.                                      |
| 16 |  | I am very good at focusing my efforts on attaining a goal.                                     |
| 17 |  | Even when I do something very carefully, I often feel that it is not quite right.              |
| 18 |  | I hate being less than the best at things.   |
| 19 |  | I have extremely high goals.   |
| 20 |  | My parents have expected excellence from me.   |
| 21 |  | People will probably think less of me if I make a mistake.                                     |
| 22 |  | I never felt like I could meet my parents' expectations.                                       |
| 23 |  | If I do not do as well as other people, it means I am an inferior human being.                 |
| 24 |  | Other people seem to accept lower standards from themselves than I do.                         |
| 25 |  | If I do not do well all the time, people will not respect me.                                  |
| 26 |  | My parents have always had higher expectations for my future than I have.                      |
| 27 |  | I try to be a neat person.   |
| 28 |  | I usually have doubts about the simple everyday things I do.                                   |
| 29 |  | Neatness is very important to me.  |
| 30 |  | I expect higher performance in my daily tasks than most people.                                |

|    |  |  |
|----|--|--|
| 31 |  | I am an organized person.  |
| 32 |  | I tend to get behind in my work because I repeat things over and over. |
| 33 |  | It takes me a long time to do something "right."                       |
| 34 |  | The fewer mistakes I make, the more people will like me.               |
| 35 |  | I never felt like I could meet my parents' standards.                  |

### IIP-PD-47 (Pilkonis et al, 1996)

Here is a list of problems that people report in relating to other people. Please read the list below, and for each item, consider whether that problem has been a problem for you with respect to any significant person in your life. Then select the number that represents how distressing that problem has been, and circle that number.

|            |              |            |             |           |
|------------|--------------|------------|-------------|-----------|
| Not at all | A little bit | Moderately | Quite a bit | Extremely |
| 0          | 1            | 2          | 3           | 4         |

| <b>It is hard for me to:</b>                              | Not at all | A little bit | Moderately | Quite a bit | Extremely |
|---|------------|--------------|------------|-------------|-----------|
| trust other people  | 0          | 1            | 2          | 3           | 4         |
| say "no" to other people                                  | 0          | 1            | 2          | 3           | 4         |
| join in on groups   | 0          | 1            | 2          | 3           | 4         |
| introduce myself to new people                            | 0          | 1            | 2          | 3           | 4         |
| be assertive with another person                          | 0          | 1            | 2          | 3           | 4         |
| do what another person wants me to do                     | 0          | 1            | 2          | 3           | 4         |
| get along with people who have authority over me          | 0          | 1            | 2          | 3           | 4         |
| make reasonable demands of other people                   | 0          | 1            | 2          | 3           | 4         |
| socialize with other people                               | 0          | 1            | 2          | 3           | 4         |
| feel comfortable around other people                      | 0          | 1            | 2          | 3           | 4         |
| express my feelings to other people directly              | 0          | 1            | 2          | 3           | 4         |
| be supportive of another person's goals in life           | 0          | 1            | 2          | 3           | 4         |
| really care about other people's problems                 | 0          | 1            | 2          | 3           | 4         |
| maintain a working relationship with someone I don't like | 0          | 1            | 2          | 3           | 4         |
| set goals for myself without other people's advice        | 0          | 1            | 2          | 3           | 4         |
| accept another person's authority over me                 | 0          | 1            | 2          | 3           | 4         |



|   |            |              |            |             |           |
|---|------------|--------------|------------|-------------|-----------|
| ignore criticism from other people                                      | 0          | 1            | 2          | 3           | 4         |
| feel like a separate person when I am in a relationship                 | 0          | 1            | 2          | 3           | 4         |
| put somebody else's needs before my own                                 | 0          | 1            | 2          | 3           | 4         |
| take instructions from people who have authority over me                | 0          | 1            | 2          | 3           | 4         |
| feel good about another person's happiness                              | 0          | 1            | 2          | 3           | 4         |
| get over the feeling of loss after a relationship has ended             | 0          | 1            | 2          | 3           | 4         |
| ask other people to get together socially with me                       | 0          | 1            | 2          | 3           | 4         |
| <b>It is hard for me to:</b>  | Not at all | A little bit | Moderately | Quite a bit | Extremely |
| be assertive without worrying about hurting the other person's feelings | 0          | 1            | 2          | 3           | 4         |
| be self-confident when I am with other people                           | 0          | 1            | 2          | 3           | 4         |
| <b>The following are things you do too much:</b>                        |            |              |            |             |           |
| I fight with people too much  | 0          | 1            | 2          | 3           | 4         |
| I am too sensitive to criticism   | 0          | 1            | 2          | 3           | 4         |
| I get irritated or annoyed too easily                                   | 0          | 1            | 2          | 3           | 4         |
| I am too sensitive to rejection   | 0          | 1            | 2          | 3           | 4         |
| I am too aggressive towards other people                                | 0          | 1            | 2          | 3           | 4         |
| I try to please other people too much                                   | 0          | 1            | 2          | 3           | 4         |
| I feel attacked by other people too much                                | 0          | 1            | 2          | 3           | 4         |
| I criticize other people too much                                       | 0          | 1            | 2          | 3           | 4         |
| I am affected by another person's moods too much                        | 0          | 1            | 2          | 3           | 4         |
| I am too afraid of other people   | 0          | 1            | 2          | 3           | 4         |
| I worry too much about other people's reactions to me                   | 0          | 1            | 2          | 3           | 4         |
| I am influenced too much by another person's thoughts and feelings      | 0          | 1            | 2          | 3           | 4         |
| I worry too much about disappointing other people                       | 0          | 1            | 2          | 3           | 4         |
| I lose my temper too easily   | 0          | 1            | 2          | 3           | 4         |
| I tell personal things to other people too much                         | 0          | 1            | 2          | 3           | 4         |
| I am too easily bothered by other people making demands of me           | 0          | 1            | 2          | 3           | 4         |
| I argue with other people too much                                      | 0          | 1            | 2          | 3           | 4         |
| I am too envious and jealous of other people                            | 0          | 1            | 2          | 3           | 4         |
| I feel competitive even when the situation does not                     |            |              |            |             |           |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| call for it   | 0 | 1 | 2 | 3 | 4 |
| I feel embarrassed in front of other people too much      | 0 | 1 | 2 | 3 | 4 |
| I feel too anxious when I am involved with another person | 0 | 1 | 2 | 3 | 4 |
| I want to get revenge against people too much             | 0 | 1 | 2 | 3 | 4 |

### Balanced Inventory of Desirable Responding (BIDR) Short Form

Instructions: Please read the statements below, and indicate how much you agree or disagree with each one.

Response scale: Totally disagree to Totally agree (we have used both 7 and 9-point scales)

- I have not always been honest with myself. (r)
- I always know why I like things.
- It's hard for me to shut off a disturbing thought.(r)
- I never regret my decisions.
- I sometimes lose out on things because I can't make up my mind soon enough. (r)
- I am a completely rational person.
- I am very confident in my judgements.
- I have sometimes doubted my ability as a lover.(r)
- I sometimes tell lies if I have to. (r)
- I never cover up my mistakes.
- There have been occasions when I have taken advantage of someone. (r)
- I sometimes try to get even rather than forgive and forget. (r)
- I have said something bad about a friend behind his or her back. (r)
- When I hear people talking privately, I avoid listening.
- I never take things that don't belong to me.
- I don't gossip about other people's business.

Items 1-8 assess Self-Deceptive Enhancement; items 9-16 assess Impression Management.

### Personal Need for Structure

Read each of the following statements and decide how much you agree with each according to your attitudes, beliefs, and experiences. It is important for you to realize that there are no "right" or "wrong" answers to these questions. People are different, and we are interested in how you feel. Please respond according to the following 6-point scale:

- 1 = *strongly disagree*
- 2 = *moderately disagree*
- 3 = *slightly disagree*
- 4 = *slightly agree*
- 5 = *moderately agree*
- 6 = *strongly agree*

It upsets me to go into a situation without knowing what I can expect from it.

I'm not bothered by things that interrupt my daily routine.<sup>8</sup>

I enjoy having a clear and structured mode of life.

I like to have a place for everything and everything in its place.

I enjoy being spontaneous.

I find that a well-ordered life with regular hours makes my life tedious.

I don't like situations that are uncertain.

I hate to change my plans at the last minute.

9. I hate to be with people who are unpredictable.

10. I find that a consistent routine enables me to enjoy life more.

11. I enjoy the exhilaration of being in unpredictable situations.

12. I become uncomfortable when the rules in a situation are not clear.

## APPENDIX C – ETHICS APPROVAL

**AMENDED 07.07.11**



**National Research Ethics Service**

### **NRES Committee South Central - Southampton A**

Level 3, Block B  
Whitefriars Lewins Mead  
Bristol  
BS1 2NT

Telephone: 0117 342 1381  
Facsimile: 0117 342 0445

20 June 2011

Prof. Thomas R Lynch Professor of  
Clinical Psychology University of  
Exeter Psychology, CLES  
Washington Singer Laboratories  
Perry Road, Exeter  
EX4 4QG

Dear Prof. Lynch

**Study title:** REFRAMED: REFRActory depression - Mechanisms and  
Evaluation of Dialectical behaviour therapy  
**REC reference:** 11/SC/0146  
**Protocol number:** DBT2011

Thank you for your letter of 13 June 2011, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

### **Confirmation of ethical opinion**

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

### **Ethical review of research sites**

#### **NHS sites**

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

#### **Non-NHS sites**

The Committee has not yet been notified of the outcome of any site-specific assessment (SSA) for the non-NHS research site(s) taking part in this study. The favourable opinion does not therefore apply to any non-NHS site at present. We will write to you again as

soon as one Research Ethics Committee has notified the outcome of a SSA. In the meantime no study procedures should be initiated at non-NHS sites.

### **Conditions of the favourable opinion**

*The favourable opinion is subject to the following conditions being met prior to the start of the study.*

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

*Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.*

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

*Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.*

*For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.*

*Sponsors are not required to notify the Committee of approvals from host organisations*

**It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).**

### **Approved documents**

The final list of documents reviewed and approved by the Committee is as follows:

| <i>Document</i>                    | <i>Version</i>                               | <i>Date</i>   |
|------------------------------------|--|---------------|
| Advertisement                      | Recruitment flyer; v1.1                      | 25 March 2011 |
| Advertisement                      | Recruitment poster; v1.1                     | 25 March 2011 |
| Covering Letter                    |  | 29 March 2011 |
| Evidence of insurance or indemnity |  | 27 July 2010  |
| GP/Consultant Information Sheets   | Clinician cover letter; v1.1                 | 22 March 2011 |
| GP/Consultant Information Sheets   | Clinician info leaflet; v1.1                 | 22 March 2011 |
| GP/Consultant Information Sheets   | Non-referring GP info leaflet; v1.1          | 22 March 2011 |
| GP/Consultant Information Sheets   | Non-referring GP outcome randomisation; v1.1 | 22 March 2011 |
| Interview Schedules/Topic Guides   | Telephone screening script; v1.1             | 25 March 2011 |
| Interview Schedules/Topic Guides   | Telephone                                    | 25 March 2011 |

|  |                                     |                  |
|--|-------------------------------------|------------------|
|  | screening scoring sheet; v1.1       |                  |
| Interview Schedules/Topic Guides   | SCID 1 screening interview; v1      | 25 March 2011    |
| Interview Schedules/Topic Guides   | SCID 2 screening interview; v1      | 25 March 2011    |
| Interview Schedules/Topic Guides   | AdSUS interview; v1                 | 28 March 2011    |
| Interview Schedules/Topic Guides   | CAM-PROM PT brief description; v1.1 | 25 March 2011    |
| Investigator CV  |                                     | 29 March 2011    |
| Letter from Sponsor  |                                     | 28 March 2011    |
| Letter of invitation to participant  | Participant letter as from GP; v1.2 | 31 May 2011      |
| Letter of invitation to participant  | Participant reply form; v1.1        | 22 March 2011    |
| Other: Letter from funder EME  |                                     | 04 November 2010 |
| Participant Consent Form: Pre-Trial Consent Form                           | 1.1                                 | 22 March 2011    |
| Participant Consent Form: Participant Consent Form                         | 1.1                                 | 22 March 2011    |
| Participant Consent Form   | 1.1                                 | 22 December 2010 |
| Participant Information Sheet: Pre-Trial Information Sheet                 | 1.1                                 | 22 March 2011    |
| Participant Information Sheet: Participant Summary Pamphlet with GP invite | 1.1                                 | 22 March 2011    |
| Participant Information Sheet: Participant Information Sheet               | 1.1                                 | 22 March 2011    |
| Participant Information Sheet: Participant DBT leaflet                     | 1.1                                 | 22 March 2011    |
| Participant Information Sheet: Pre Trial                                   | 1.2                                 | 31 May 2011      |
| Participant Information Sheet: Leaflet                                     | 1.2                                 | 31 May 2011      |
| Protocol   | 1.1                                 | 23 March 2011    |
| Questionnaire: SCID 2 Screening Questionnaire                              |                                     |                  |
| Questionnaire: Invalidating Childhood Environment Scale                    |                                     |                  |
| Questionnaire: NEO-FFI Conscientiousness subscale                          |                                     |                  |
| Questionnaire: Frost Multidimensional Perfectionism scale                  |                                     |                  |
| Questionnaire: Schwartz Values Scale                                       |                                     |                  |
| Questionnaire: Urgency Premeditation Perseverance Sensation Seeking        |                                     |                  |
| Questionnaire: Measure of Parenting Style                                  |                                     |                  |
| Questionnaire: Hamilton Rating Scale for Depression                        |                                     |                  |
| Questionnaire: Suicidal Behaviour Questionnaire                            |                                     |                  |
| Questionnaire: Modified Scale for Suicide Ideation                         |                                     |                  |
| Questionnaire: LIFE-RIFT   |                                     |                  |
| Questionnaire: EQ-5D   |                                     |                  |
| Questionnaire: Client Satisfaction Questionnaire                           |                                     |                  |
| Questionnaire: Inventory of Interpersonal Problems - Personality Disorders |                                     |                  |
| Questionnaire: Dialectical Behaviour Therapy Ways of Coping                |                                     |                  |

|  |                             |                   |
|--|-----------------------------|-------------------|
| Checklist  |                             |                   |
| Questionnaire: White Bear Suppression Inventory                          |                             |                   |
| Questionnaire: Ambivalence Over Emotional Expressiveness                 |                             |                   |
| Questionnaire: Social Support Questionnaire                              |                             |                   |
| Questionnaire: Patient Health Questionnaire                              |                             |                   |
| Questionnaire: Positive and Negative Affect Scale                        |                             |                   |
| Questionnaire: Emotional Approach Coping                                 |                             |                   |
| Questionnaire: Credibility/Expectancy Questionnaire                      |                             |                   |
| Questionnaire: California Psychotherapy Alliance Scale - patient version |                             |                   |
| Questionnaire: Outcome Rating Scale                                      |                             |                   |
| Questionnaire: Session Rating Scale                                      |                             |                   |
| Questionnaire: DBT for ECD diary card                                    | 1.1                         | 25 March 2011     |
| Questionnaire: Automated Telephone Questionnaire                         | 1.1                         | 25 March 2011     |
| Questionnaire: Automated Telephone Conscientiousness check               | 1.1                         | 25 March 2011     |
| REC application  |                             | 28 March 2011     |
| Referees or other scientific critique report                             | Funder Reviewer Report (i)  | 02 September 2010 |
| Referees or other scientific critique report                             | Funder Reviewer Report (ii) | 02 September 2010 |
| Referees or other scientific critique report                             | Funder Statistician Report  | 02 September 2010 |
| Response to Request for Further Information                              |                             | 13 June 2011      |

### Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

### After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

Notifying substantial amendments Adding  
new sites and investigators Progress and  
safety reports Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

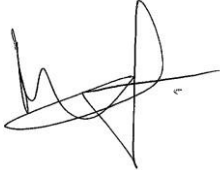
We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email [referencegroup@nres.npsa.nhs.uk](mailto:referencegroup@nres.npsa.nhs.uk).

11/SC/0146

**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project

Yours sincerely



pp

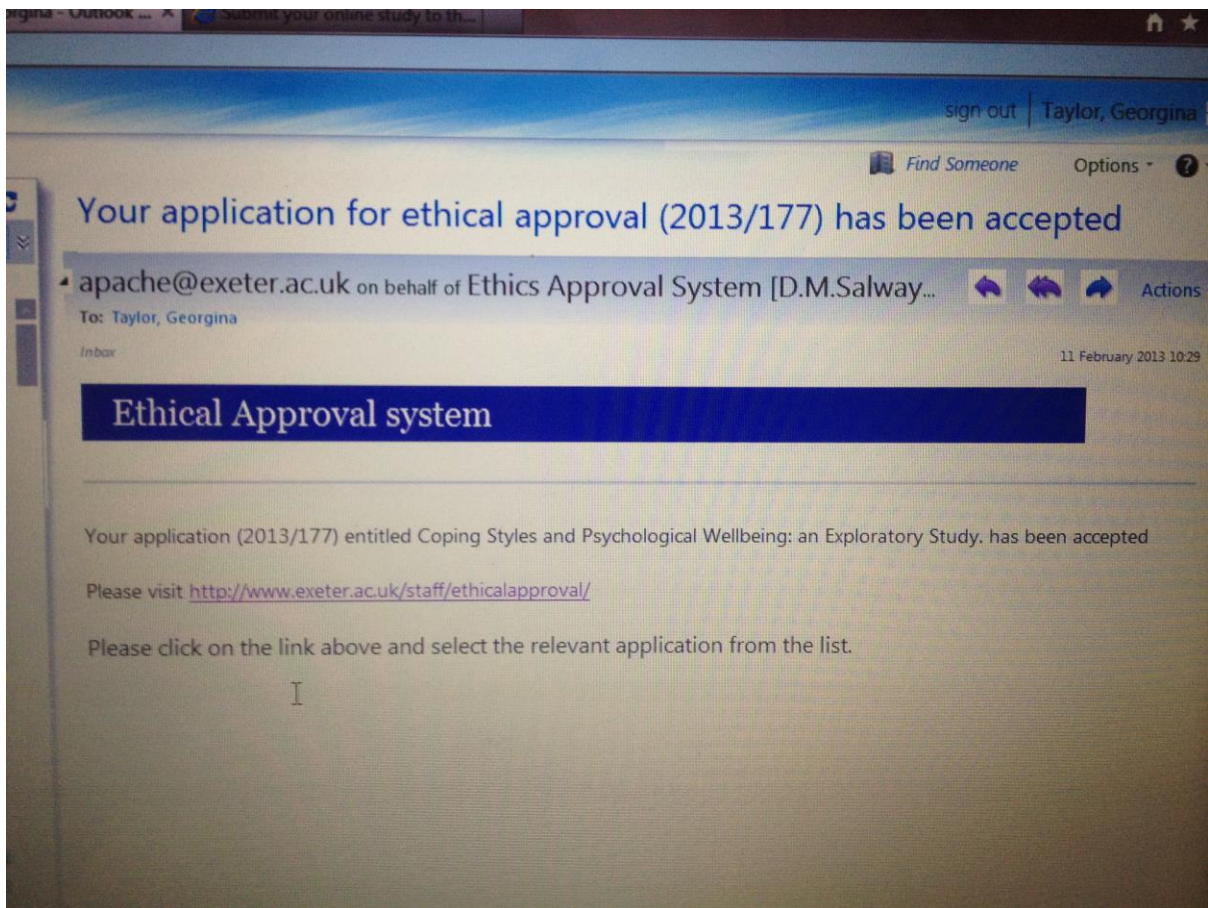
**Dr Iain MacIntosh**  
**Chair**

Email: [scsha.SWHRECA@nhs.net](mailto:scsha.SWHRECA@nhs.net)

*Enclosures:* "After ethical review – guidance for researchers"

*Copy to:* *Dr Roelie J Hempel*  
*Dr Tim Hollingbery, Dorset HealthCare University NHS Foundation*





## **REFRAMED: REFRActory depression - Mechanisms and Efficacy of Dialectical Behaviour Therapy**

### ***Patient Information Sheet***

*We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Feel free to discuss the study with your family or friends. Please ask us if there is anything that is not clear or if you would like more information.*

### **What is the purpose of the study?**

Depression is a common mental health problem that is often treated with antidepressant medication. Unfortunately, some people continue to feel depressed even though they have taken antidepressants for 6 weeks or more. This problem is far more common than often realised. Doctors are not certain about the best way to treat these patients. There is some evidence to suggest that certain types of 'talking therapy' may be helpful. You may have heard of Cognitive Behavioural Therapy (CBT), for example. However, every person is different and CBT does not work for everyone. This may be because of a certain way of thinking or behaving that a person may not even be aware of that is stopping them from getting better. Recently, a relatively new type of therapy has been developed, called Dialectical Behaviour Therapy (DBT).

This study is being set up to try to discover if DBT and antidepressants might help to improve depression, by reducing symptoms. We need to compare two different ways of treating depression by carrying out what is called a randomised controlled trial. We will compare antidepressant medication alone with antidepressant medication plus DBT and we want to do this trial over a one and a half year period. In order to take part in this study, certain symptoms must be present. If you are suitable and you would like to take part in the trial, we will ask you to sign a consent form. If we don't think you are suitable we will explain why. We are hoping to include 276 people in this study.

### **What is Dialectical Behaviour Therapy?**

DBT is a type of talking therapy that involves weekly individual and group sessions. The duration of the therapy is between 24 and 26 weeks. DBT is based on the idea that the way people think and behave affects how they feel. During DBT sessions, the patient and therapist discuss difficulties the patient is experiencing and how their thoughts and feelings affect the problem. The patient and therapist then work together to find ways of helping the person cope with their depression. You will have received another leaflet ("Dialectical Behaviour Therapy for Treatment Resistant Depression") explaining more about DBT for you to read.

### **Why have I been chosen?**

You were recently contacted by one of our research staff and asked several questions about your use of antidepressant medication and depression symptoms. Based on the answers that you gave, you may be eligible to take part in this study.

### **Do I have to take part?**

*No*, you do not have to take part in this study. If you have agreed to attend the appointment with the researcher, this will not commit you to taking part in the study. Similarly, if you complete the questionnaires during the appointment, this does not mean you are committed to taking part in the study. We hope that as many people as possible will take part, but it is up to you to decide whether or not to take part. If you decide to take part you are still free to withdraw at any time, without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. If you withdraw from the study, we will need to use the data collected up to your withdrawal.

If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent-form which you can also keep. The consent form simply gives us permission to look at some parts of your medical records, gather and store information and sets out how we plan to go about running the research project. If you decide to take part you are still free to withdraw at any time and without giving a reason. The study therapist may also withdraw you from the study if they feel it would be in your best interests.

### **Will I be in the DBT treatment group or the group continuing to take antidepressant drugs? How is this decided?**

After you have attended the first interview and completed a set of questionnaires (it is important to do this within one week after the interview), you will be randomly allocated to one of two treatment groups: either DBT in addition to usual care, which includes antidepressants, or to usual care, including antidepressants. The groups are selected randomly – that is, by chance. You have a 60% chance of being in the DBT group and a 40% chance of being in the group continuing with your antidepressants in the usual way, called the 'standard care' group. We would like more people to be in the DBT group so that we can get a better understanding of *how* DBT works.

The person that will be doing the research interviews with you will not know which group you have been assigned to and it is important that you try not to tell them. However, your GP or psychological therapist will know which group you are in, so that they can provide you with the best care possible.

Regardless of which group you are randomly selected for, we would like to point out that being part of this study means you will be receiving better care and closer monitoring of your well-being than someone who is not taking part. It is important for us to be able to compare the DBT treatment to the treatment patients usually receive in the NHS, so by taking part in this study you will be helping us with understanding the effectiveness and mechanisms of this treatment regardless of the group you have been allocated to. We hope that this treatment will become more widely available after this study, so that more people can benefit from it in the future.

### **What does taking part in the study, either in the DBT group or Standard care group involve?**

***DBT + Standard Care:*** If you are in this group, you will be invited to take part in a DBT

programme run by a trained and closely supervised therapist. The duration of the therapy is between 24 and 26 weeks. The DBT treatment involves a 1 hour weekly individual session and a 2.5-hour weekly group session. As part of this process, you may be asked to think about some of the issues discussed between sessions and you are asked to keep a diary. With your permission, these sessions will be video-recorded, mainly to make sure that the therapists are being consistent with their approaches. We may also want to use the videotapes to tell people about this form of therapy in the future. This would normally be people wishing to learn how to work as DBT therapists. If you do not want the videos to be used for this purpose, then that is fine. As with all our tapes, the video tapes will be stored in a locked cabinet at the University of Southampton.

While you are taking part in the DBT therapy sessions, you are encouraged to continue your antidepressant medication. However, we would like to ask you not to follow any additional psychotherapy since this may interfere with the DBT treatment and this will make it more difficult for us to compare the effect of DBT to standard care.

**Standard Care:** If you are in this group, we will ask you to continue to take your prescription for the next one and a half years in the way you and your GP decide is appropriate. This is currently the recommended treatment for people who suffer from depression. However, taking part in this study does not mean you would have to continue to take your medication. If you and your GP decided it was the right time for you to stop, we would support that decision. We will ask you every 6 months how you are getting on. We will also not discourage you from seeking other types of treatment, such as psychotherapy.

### **What else will I be expected to do?**

Regardless of what group you will be allocated to, we will ask you to attend an interview every 6 months, to complete a questionnaire every month, and to respond to some automated telephone messages every 2 weeks during the first 6 months. Figure 1 shows when the assessments take place and how long they are expected to take.

**Interviews:** Everyone who takes part in this research will talk to a researcher a total of 4 times, once when we first meet you and then at the follow-up meetings 6, 12, and 18 months later. These meetings are all extra from those you would normally have for the management of your depression.

**Questionnaires:** In between these meetings, you will be asked to complete several questionnaires on a monthly basis during the first year and once again after 18 months. Where possible, we will ask you to do this online via our study website. However, if you do not have access to a computer and/or the internet, we are happy to send you paper versions accompanied by pre-paid envelopes so there will be no cost to you for posting them back to us.

**Phone messages:** After you have attended the first interview, we will ask you to do a simple homework assignment during 1 week, and we will send you an automated phone message every day to ask how you've been getting on. This will only take 1-2 minutes per day, and we will only send these messages on weekdays between 9am and 9pm to your mobile phone. After you have been allocated to a study group, you will receive an automated phone call once every week during the first six months asking you about your mood. Each call will last about 5-10 minutes and will be scheduled every Friday between 6pm and 8pm. If you are unable to take the call at that specific

moment, we may try again but don't worry if you are unable to answer the phone that day.

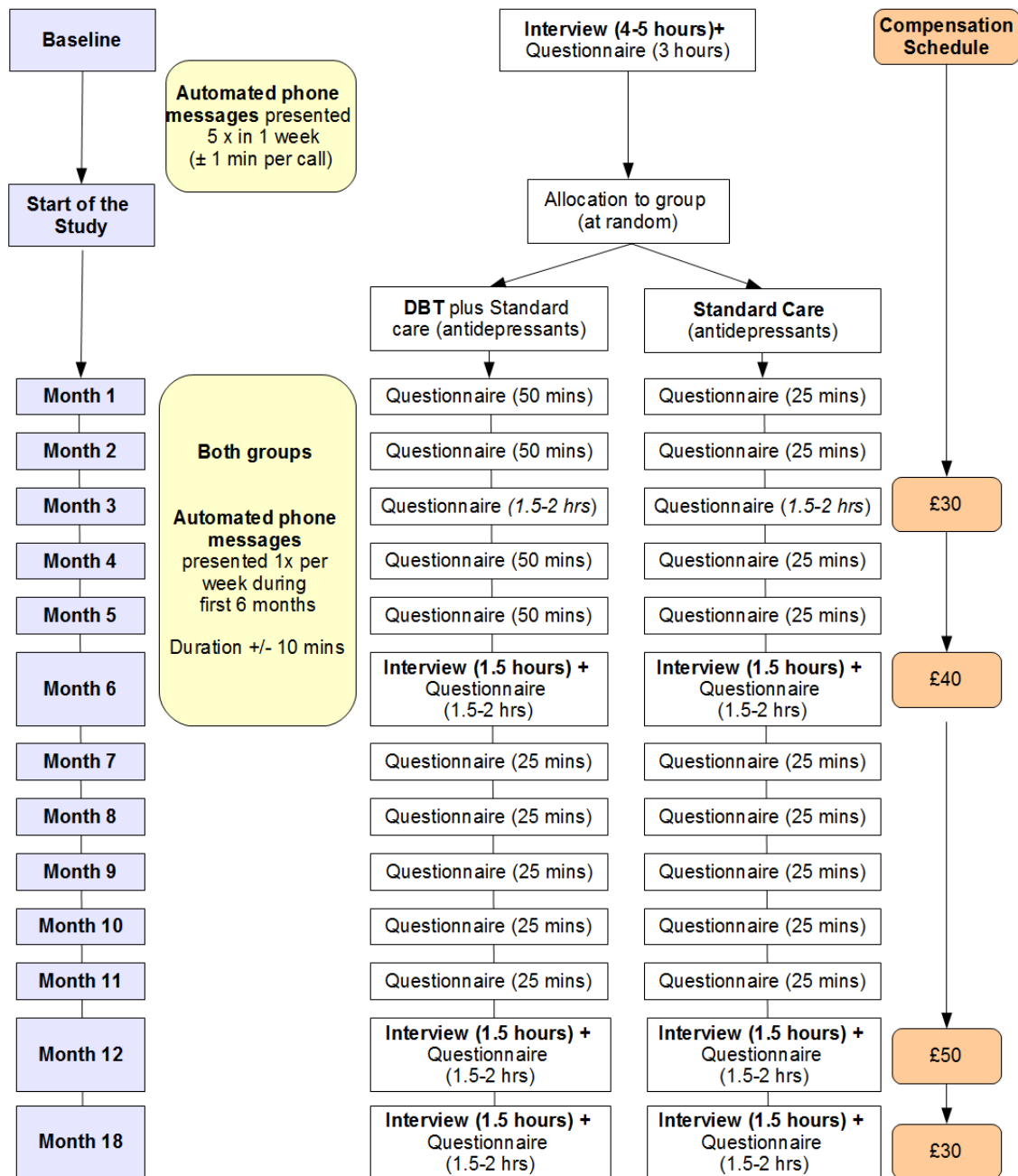
**What are the possible disadvantages and risks of taking part?**

This is a randomised controlled trial therefore you cannot choose which group you wish to join. Group allocations will be determined by chance. If, as part of the study, we become aware of a medical condition that may affect your health we will discuss a way of managing this.

Your health, welfare and wellbeing are the first priority for all the members of the research team and we will do our very best to minimise any disadvantages and risks. Taking part in this research will involve you taking some time to complete the questionnaires and discuss with the researchers how you are doing. These questionnaires are about you and some of the questions are personal; sometimes people can find it upsetting to discuss these issues. You don't have to discuss anything you don't want to and the research team members are trained to make sure that they are sensitive to your feelings and concerns. The researcher will be able to offer support during the appointment if you are upset, but would also contact the doctors or care workers who normally provide care for you, if further support was necessary. This would be done only after discussion with you.

If you are in the DBT group you will have to agree to attend the individual and group meetings and practice the new skills you will learn at home. Taking part in the DBT group does involve time, effort and commitment but, having said that, this is all aimed to benefit you and help you feel better.

There are no unforeseen risks associated with taking part in the study. If you have any concerns around taking part in this study, we think it is important that we talk about them when we first meet.



**Figure 1.** Flow chart of assessment and compensation schedule for REFRAMED

### **What are the possible benefits of taking part?**

We hope that either the antidepressant drug or DBT treatments will help you by relieving you from your depression or decrease your depression symptoms significantly. However, we cannot guarantee that these treatments will help you. The information we get from this study may help us to treat future people with depression better. We will keep an eye on everyone in the study to see how they are doing. If anyone shows signs of their symptoms getting worse we will help ensure they have access to appropriate help.

At the end of the study, we will offer you a personalised report showing you how your depression and mood scores have changed over the course of 18 months.

We will also compensate you for your time and effort while taking part in this study, provided you complete all assessments. Figure 1 shows how much this will be. If you are in the DBT group, we will randomise you to either receiving your reimbursement directly from your therapist, or via a bank transfer. Please note that the reimbursement is for the research part of the study, and NOT for the therapy part. You will continue to receive reimbursements if you decide not to take part in the therapy but continue to complete your assessments.

State Benefits: please be aware that state benefits may be affected if you receive payment for involvement in studies. We strongly encourage people who are receiving state benefits to get advice from the Involvement Helpline (023 8065 1088) before agreeing any payments

### **What happens when the research study stops?**

After the study is complete we hope that your depression will have improved. If not, your GP will continue to manage your treatment. Unfortunately, it will not be possible for us to offer everyone DBT at the end of the study. Your GP may be able to refer you to psychotherapy as part of your normal care.

After the 18 months, we will not ask you for any more information for this study. However, new projects on depression may be planned in the future, which you may be able to help with. Therefore, you will be asked whether you are willing for us to contact you by letter or telephone to inform you of new projects on depression. If are happy to be contacted in the future but have moved, we would use your details, including your NHS number, to obtain your new address via the NHS Central register.

### **What if new information becomes available?**

Sometimes during the course of a research study, new information becomes available about the treatment that is being studied. If this happens, we will tell you about it and discuss with you whether you want to continue in the study. If you decide to withdraw, we will make arrangements for your care to continue. If you decide to continue in the study, you will be asked to sign an updated consent form. On receiving new information, we might consider it to be in your best interests to withdraw you from the study. If this happens, we will explain the reasons and arrange for your care to continue.

### **What if something goes wrong?**

If you are experiencing problems or you feel that something is going wrong please bring it to our attention immediately. We will do our very best to deal with the issue properly. You can talk to your DBT therapist if you are in the DBT group and whichever group you are in you can always contact me, Thomas Lynch, the study's Chief Investigator (contact details below). If you wish to complain about any aspect of the research team's work you can also raise this with me. The normal National Health Service complaints mechanism is also available to you (Patient Advice & Liaison Service FREEPHONE 0800 073 0741 or you can locate your local PALS office online: [www.pals.nhs.uk](http://www.pals.nhs.uk)).

### **Will my taking part in this study be kept confidential?**

All information collected about you during the course of the research will be kept strictly confidential. Your personal details are stored in a separate locked cabinet from all the information we collect and we never put your name on any of the questionnaires that we ask you to fill out. One exception would be if the interview revealed a significant risk of harm to yourself or others, in which case information may be fed back to your GP but normally only after discussion with you. Another exception would be if you have given explicit consent for your video material to be used for teaching purposes.

### **What will happen to the results of the research study?**

The researchers aim to publish the work in an academic journal. We will also provide all those who take part with an information sheet at the end of the study detailing the results we have found. Your identity will never be revealed in any report or publication. Generally our research is reported on the website of the University of Southampton at: <http://www.southampton.ac.uk/psychology/research/index.page?> and on the website specifically designed for the present study: [www.reframed.org.uk](http://www.reframed.org.uk).

If you are interested we can send you paper copies of the findings of this study. We can also give you copies of any papers that get published as a result of this study. This will be your choice.

### **Who is organising and funding the research? Who has reviewed the study?**

The REFRAMED study is organised by the University of Southampton, in collaboration with the University of Plymouth, University of Bournemouth, Swansea University, King's College London, and the University of Bristol.

The research team based at the University of Southampton will co-ordinate the study and the team based in Swansea will be responsible for analysing the data. All the information that is collected about you (including your contact details) will be shared between the study centres and the co-ordinating research team based at the University of Southampton. The DBT treatment will take place at the Intensive Psychological Therapy Services of the Dorset HealthCare University NHS Foundation Trust, Southern Health NHS Foundation Trust, and Betsi Cadwaladr University Health Board.

This research is funded by the Medical Research Council – Efficacy and Mechanisms Evaluation programme, part of the National Institute for Health Research and by the Department of Health. The research has been approved by the South Central Research Ethics Committee (11/SC/0146)



and has the support of the Ethics Committee of the Department of Psychology, University of Southampton.

### **What will happen next?**

A member of our research team has spoken to you by telephone and invited you to attend an appointment to discuss the study in more detail. At your first appointment, you will meet a researcher who will explain the study to you. After this, they will ask you questions about your background, history of depression, use of antidepressant medication and current symptoms. This interview is expected to take between 3-4 hours.

In order to take part in our study, certain symptoms must be present. If you are suitable and you would like to take part in the study, we will ask you to sign a consent form. After this, the researcher will show you how to complete the questionnaires on a computer. You will then be given the opportunity to complete the first set of questionnaires at the centre in a quiet room, or if you prefer, to go home and complete the remaining questionnaires there. It does not matter if you do not have access to the internet at home or elsewhere, we can provide you with paper versions of all questionnaires. You don't have to answer any questions that you don't want to and anything you tell us is confidential.

With your permission, we would like to audiotape the meeting to make sure that the researchers are using a consistent approach. These audiotapes will be stored securely in a locked cabinet at the University of Southampton and will be accessible only to members of the research team.

The appointment will normally take no longer than 4 hours. You will be given a copy of your consent form, together with a copy of this information sheet to keep. If you are not eligible for the study, or you do not wish to take part, you will continue your usual care with your GP.

### **What if I have any questions or concerns either now or in the future?**

If you have any questions or concerns please feel free to talk to Thomas Lynch, the study's Chief Investigator, or to Roelie Hempel, the Trial Manager.

Thank you for taking the time to read this information.

Prof Thomas Lynch  
Professor of Clinical Psychology  
School of Psychology  
Shackleton Building (B44)  
University of Southampton  
Highfield Campus  
Southampton SO17 1BJ  
Email: [T.Lynch@soton.ac.uk](mailto:T.Lynch@soton.ac.uk)  
Telephone: +44(0)23 8059 2633

For more information you can also contact  
Claire Wellsted  
Clinical Studies Officer  
01202 492126  
[reframed.dorset@dhft.nhs.uk](mailto:reframed.dorset@dhft.nhs.uk)

[www.reframed.org.uk](http://www.reframed.org.uk)  
[reframed.dorset@dhuft.nhs.uk](mailto:reframed.dorset@dhuft.nhs.uk)

## Participant Consent Form

Title of project: REFRAMED: REFRActory depression - Mechanisms and Efficacy of Dialectical Behaviour Therapy  
 Trial Registration Number: ISRCTN85784627  
 Chief Investigator: Professor Thomas R. Lynch, University of Southampton  
 Patient ID: \_\_\_\_\_

Centre: Dorset / Hampshire / North Wales

### PART 1: To be completed by ALL patients before the baseline assessment

Please initial  
the box

- |   |                          |
|---|--------------------------|
| 1. I have read and understood the information sheet dated <b>15th of July 2011 (Version 2.0)</b> for the above study, and been given a copy to keep | <input type="checkbox"/> |
| 2. I have had the opportunity to consider the information, and ask any questions. I have had satisfactory answers to all of my questions            | <input type="checkbox"/> |
| 3. I have received enough information about the study   | <input type="checkbox"/> |
| 4. I understand that I may not be eligible to take part in the study  | <input type="checkbox"/> |
| 5. I understand that details of my participation will be stored anonymously on file and may be used in the final analysis of data                   | <input type="checkbox"/> |
| 6. I agree to complete the screening interview and questionnaires   | <input type="checkbox"/> |
| 7. I give my permission for this interview to be audio-recorded for research purposes.  | <input type="checkbox"/> |

\_\_\_\_\_  
**Name of Patient**  
 (BLOCK CAPITALS)

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature**

I have explained the study to the above patient and he/she has indicated his/her willingness to take part in the screening questionnaires.

\_\_\_\_\_  
**Name of Researcher**  
 (BLOCK CAPITALS)

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature**

**4 copies of form: 1 for patient; 1 for site file; 1 for medical notes; 1 for trial master f**

**PART 2a: To be completed by ELIGIBLE patients only**

Patient ID:

|     |  | <b>Please initial<br/>ONE box</b> |                          |
|-----|--|-----------------------------------|--------------------------|
|     |  | <b>Yes</b>                        | <b>No</b>                |
| 8.  | I understand that data collected during the study (including information from my medical records) may be looked at by responsible individuals from the REFRAMED study team, from regulatory authorities or from the NHS Trust.   | <input type="checkbox"/>          |                          |
| 9.  | I give my permission for any DBT treatment sessions to be video-recorded for <u>research purposes</u> .  | <input type="checkbox"/>          |                          |
| 10. | I give my permission for any DBT treatment sessions to be video-recorded for <u>teaching purposes</u> . I understand that clips from these recordings may be used in presentations and that this might mean I am not completely anonymous if someone recognises me. I will always be able to withdraw my consent for this in the future. | <input type="checkbox"/>          | <input type="checkbox"/> |
| 11. | I am willing to be interviewed about my experiences of taking part in the study and for this interview to be audio-recorded.   | <input type="checkbox"/>          | <input type="checkbox"/> |
| 12. | I understand that my participation is voluntary, and that I am free to withdraw at any time, without giving any reason, and without my medical care or legal rights being affected   | <input type="checkbox"/>          |                          |
| 13. | I understand that I may be allocated by chance to treatment as usual and will not be receiving the DBT treatment.  | <input type="checkbox"/>          |                          |
| 14. | I understand that someone from the research team will contact me if I forget to complete my assessments. This can be via email, text, or a phone call.   | <input type="checkbox"/>          |                          |
| 15. | I understand that in the event that I lose the capacity to consent to the study, identifiable data already collected with consent will be retained and used in the study. No further data will be collected or any other research procedures carried out.  | <input type="checkbox"/>          |                          |
| 16. | I understand that my GP will be informed of my participation in the study.   | <input type="checkbox"/>          |                          |
| 17. | I understand that if I am allocated to the DBT group, I will be allocated by chance to receiving my reimbursement either via bank transfer or directly from my therapist.  | <input type="checkbox"/>          |                          |
| 18. | I agree to take part in this study   | <input type="checkbox"/>          | <input type="checkbox"/> |

**Consent for future contact**

Please indicate below whether or not you are willing to be contacted in the future

|     |  | <b>Please initial<br/>ONE box</b> |                          |
|-----|--|-----------------------------------|--------------------------|
|     |  | <b>Yes</b>                        | <b>No</b>                |
| 19. | I am willing to be contacted about any projects on depression that may be planned in the future. I understand that if I have moved you will use the NHS Central Register to obtain my new address. | <input type="checkbox"/>          | <input type="checkbox"/> |

---

**Name of Patient**  
 (BLOCK CAPITALS)

---

**Date**


---

**Signature**

I have explained the study to the above patient and he/she has indicated (a) his/her willingness to take part in the study and (b) whether or not they are willing to be contacted in the future.

---

**Name of Researcher**  
(BLOCK CAPITALS)

---

**Date**

---

**Signature**

**4 copies of form: 1 for patient; 1 for site file; 1 for medical notes, 1 for trial master file**



**REFRAMED Study Team**

Chief Investigator: Professor Thomas Lynch  
Trial Manager: Roelie J. Hempel  
Trial Administrator: Gill Schofield

Department of Psychology  
University of Southampton  
Shackleton Building (B44)  
Highfield Campus  
Southampton  
SO17 1BJ

Telephone +44 (0)23 8059 5077  
Website: [www.reframed.org.uk](http://www.reframed.org.uk)  
Email: [reframed@soton.ac.uk](mailto:reframed@soton.ac.uk)

**To:** {Patient\_name}  
{Address1}  
{Address2}  
(City)  
{Postcode}

**From:** REFRAMED Study Team  
**CC:** Your GP, {GP\_name}  
**Re:** End of REFRAMED study  
**Date:** November 26, 2013

Dear {Patient\_Name}

Hereby we would like to thank you for your time and effort over the past 18 months. With your help we will be able to increase our understanding and improve Dialectical Behaviour Therapy for treatment resistant depression.

If you would like to know more about the outcome of this trial, please let us know, either by calling (023 8059 5077) or emailing ([reframed@soton.ac.uk](mailto:reframed@soton.ac.uk)). We will then make sure that we'll send the outcome to you as soon as the study has finished. Please keep in mind this may take up to 3 years.

Enclosed you'll find your final reimbursement cheque. We hope you have benefitted from being part of this trial, and we wish you all the best for the future.

On behalf of the entire REFRAMED team,  
**Thank you for your participation**

Professor Thomas Lynch  
Chief Investigator

Dr Roelie Hempel  
Trial Manager

Enclosed:  
- Reimbursement cheque

## **Participant information Sheet, Consent and Debriefing form for ACND and NC Groups**

### **1. What is this study about?**

This study is designed to investigate how individuals differ in the ways in which they manage their emotions and how this relates to factors such as personality traits and psychological wellbeing. The ability to cope effectively with one's emotions is crucial for our well-being. As such, exploring the relationships between these factors may be helpful in improving our understanding and treatment of psychological disorders associated with difficulties in managing emotions and maintaining healthy relationships, such as depression and personality disorders.

### **2. What is required of me?**

You will be asked to complete a number of questionnaires which will take approximately 40 minutes. These will ask questions about your personality traits, interpersonal relationships, psychological functioning and how you manage emotions. You will also be asked to provide details about previous or current mental health difficulties, age, gender and educational/work status. You will be required to provide consent prior to taking part. These questionnaires are online so you can complete them at a time and place convenient to you.

### **3. Am I eligible to take part?**

In order to qualify, you need to be over 18 years old and have sufficient English to complete the questionnaires.

### **4. How will my identity be protected?**

The information you provide will be anonymous – your data will be stored with an ID number and this will be stored separately to your email address. All information will be kept on a password protected computer that can only be accessed by researchers involved with this project.

### **5. What do I receive as a result of taking part in this study?**

All participants who **complete** this study will be entered into a prize draw to win one of five £20 Amazon vouchers. The draw will be carried out once all the data needed for this study has been collected and successful participants will be emailed at this time (approximately May, 2013).

University of Exeter Psychology students can alternatively receive course credits for their time.

**6. What happens to me if I choose to discontinue the study?**

Your participation in this study is entirely voluntary and you have the right to withdraw from the study at any point without loss or penalty.

**7. What are the risks in taking part?**

Some questionnaire items ask about personal experiences that you might find distressing, such as current and previous mental health difficulties. It is your right not to answer any questions that make you feel upset or uncomfortable and you can discontinue the study at any time. Contact numbers for appropriate organisations offering support will be provided on the Debriefing Form that you receive at the end of the study.

**8. What do I do if I have any questions or concerns?**

If you have any questions about the study please feel free to email the researcher, Dr Georgina Taylor, at [gt246@exeter.ac.uk](mailto:gt246@exeter.ac.uk).



## **Consent Form: Coping Styles and Psychological Wellbeing**

### **Informed consent (Phase 1)**

I have read the Participant Information Sheet and understand the terms of this study on Coping Styles and Psychological Wellbeing

By providing my email address and ticking the box below, I give my informed consent to participate in this study.

I understand that I am free to withdraw my consent at any time.

Email address: \_\_\_\_\_ Date: \_\_\_\_\_

I give my consent to participate in the above study (please tick box)

**Note. Any questions or concerns about this study can be addressed to the Chair of the Ethics Committee, School of Psychology, University of Exeter.**

### Debriefing Form: Coping Styles and Psychological Wellbeing

Thank you for completing this study on Coping Styles and Psychological Wellbeing. The study aims to investigate the relationships between emotion regulation strategies and psychological wellbeing. It is predicted that your psychological wellbeing is determined by a combination of factors including personality trait and the strategies you use to regulate your emotional experiences (e.g., suppress them, accept them etc.) Individuals that **over** or **under** regulate their emotions are susceptible to experiencing high levels of psychological distress (e.g., poor interpersonal relationships, depression etc.) The questionnaires you completed were designed to measure your personality characteristics, emotion regulation skills and level of psychological functioning.

As stated in the Participant Information Sheet, although this study was not designed to cause distress, this may have occurred due to the nature of some of the questions. If you are currently experiencing distress in connection with this study, or do at a later point, there are several sources of support listed below that you can access. You may also contact the researcher (details given below) with any questions about the study or to discuss your response to it.

*The Samaritans:* 08457 90 90 90, website: [www.samaritans.org](http://www.samaritans.org)

*Mind:* 0300 123 3393, website: [http://www.mind.org.uk/help/advice\\_lines](http://www.mind.org.uk/help/advice_lines)

*Student Support Services for students at the University of Exeter:* 01392 72 4381, website: <http://www.exeter.ac.uk/wellbeing/mental-health/>

**Thank you for your participation in this study.** Your email address will now be entered into the prize draw and successful participants will be contacted by the researcher at the end of the study.

## APPENDIX D: Expanded Method

### Recruitment Process for RD Group

| Primary Care  | Secondary Care  |
|---|---|
| <ol style="list-style-type: none"> <li>1. Search of general practice databases by trained Clinical Studies Officers to identify potentially eligible patients</li> <li>2. Consult medical records to check whether these patients meet inclusion criteria</li> <li>3. GPs screen these patients for suitability</li> <li>4. GPs sign pre-prepared letters describing the study and inviting patients to opt out or consider participating in the trial</li> <li>5. Unless patients opt out, they will be contacted by telephone to discuss the study and, with their oral consent, screened for eligibility</li> <li>6. Potential participants who are eligible and willing attend for trial assessment, when they are invited to sign a formal consent form</li> </ol> | <p>Repeat Steps <b>4 – 6</b> but letters will be signed by clinicians responsible for secondary care services</p> |
| <p><b>Note.</b> GPs and practice nurses can also refer patients from routine consultations</p>  |   |

**APPENDIX E: Expanded Results***Maximum Likelihood Analysis of Over-Control (53) - total variance explained*

| Factor   | Eigenvalues  |               |                 |
|----------|--------------|---------------|-----------------|
|          | Total        | Variance<br>% | Cumulative<br>% |
| <b>1</b> | <b>20.14</b> | <b>38.01</b>  | <b>38.01</b>    |
| 2        | 3.72         | 7.02          | 45.02           |
| 3        | 3.34         | 6.30          | 51.33           |
| 4        | 2.14         | 4.03          | 55.36           |
| 5        | 1.81         | 3.41          | 58.77           |
| 6        | 1.60         | 3.02          | 61.78           |
| 7        | 1.36         | 2.57          | 64.36           |
| 8        | 1.16         | 2.19          | 66.55           |
| 9        | 1.11         | 2.09          | 68.64           |
| 10       | 1.05         | 1.99          | 70.62           |
| 11       | .97          | 1.82          | 72.45           |
| 12       | .88          | 1.65          | 74.10           |
| 13       | .80          | 1.52          | 75.62           |
| 14       | .76          | 1.43          | 77.04           |
| 15       | .71          | 1.33          | 78.38           |
| 16       | .68          | 1.28          | 79.65           |
| 17       | .62          | 1.17          | 80.82           |
| 18       | .58          | 1.09          | 81.91           |
| 19       | .57          | 1.07          | 82.97           |
| 20       | .54          | 1.02          | 83.00           |
| 21       | .52          | .98           | 84.97           |
| 22       | .48          | .91           | 85.88           |
| 23       | .46          | .87           | 86.75           |
| 24       | .43          | .82           | 87.57           |
| 25       | .43          | .80           | 88.37           |
| 26       | .41          | .77           | 89.14           |
| 27       | .39          | .73           | 89.88           |
| 28       | .38          | .72           | 90.60           |
| 29       | .36          | .67           | 91.26           |
| 30       | .35          | .66           | 91.93           |
| 31       | .32          | .61           | 92.54           |
| 32       | .32          | .60           | 93.14           |
| 33       | .29          | .55           | 93.69           |
| 34       | .29          | .54           | 94.23           |
| 35       | .27          | .51           | 94.74           |
| 36       | .26          | .48           | 95.23           |
| 37       | .25          | .47           | 95.70           |
| 38       | .24          | .46           | 96.15           |
| 39       | .22          | .41           | 96.56           |
| 40       | .21          | .39           | 96.95           |
| 41       | .19          | .35           | 97.30           |
| 42       | .17          | .33           | 97.63           |

---

|    |     |     |        |
|----|-----|-----|--------|
| 43 | .17 | .31 | 97.94  |
| 44 | .16 | .30 | 98.24  |
| 45 | .14 | .27 | 98.51  |
| 46 | .13 | .24 | 98.74  |
| 47 | .12 | .29 | 98.97  |
| 48 | .12 | .22 | 99.19  |
| 49 | .10 | .19 | 99.38  |
| 50 | .10 | .19 | 99.56  |
| 51 | .09 | .16 | 99.73  |
| 52 | .08 | .15 | 99.88  |
| 53 | .07 | .13 | 100.00 |

---

*Factor Matrix for Over-Control (53)*

| Item  | Factor<br>1 |
|---|-------------|
| IIP36. I worry too much about other people's reactions to me  | <b>.81</b>  |
| IIP38. I worry too much about disappointing other people  | <b>.79</b>  |
| 11P37. I am influenced too much by another person's thoughts and feelings                                       | <b>.74</b>  |
| 11P27. I am too sensitive to criticism  | <b>.73</b>  |
| AEQ25. I worry that if I express negative emotions such as fear and anger, other people will not approve of me. | <b>.73</b>  |
| AEQ1. I want to express my emotions honestly but I am afraid that it may cause me embarrassment or hurt.        | <b>.73</b>  |
| AEQ8. Often I'd like to show others how I feel, but something seems to be holding me back.                      | <b>.72</b>  |
| MP28. I usually have doubts about the simple everyday things I do.  | <b>.72</b>  |
| MP21. People will probably think less of me if I make a mistake.  | <b>.71</b>  |
| IIP29. I am too sensitive to rejection.   | <b>.70</b>  |
| AEQ27. I often cannot bring myself to express what I am really feeling.   | <b>.70</b>  |
| AEQ24. It is hard to find the right words to indicate to others what I am really feeling.                       | <b>.70</b>  |
| IIP43. I am too envious and jealous of other people.  | <b>.67</b>  |
| AEQ21. I try to hide my negative feelings around others, even though I am not being fair to those close to me.  | <b>.67</b>  |
| AEQ12. When someone bothers me, I try to appear indifferent even though I'd like to tell them how I feel.       | <b>.66</b>  |
| MP14. If I fail partly, it is as bad as being a complete failure.   | <b>.66</b>  |
| IIP32. I feel attacked by other people too much.  | <b>.65</b>  |
| IIP24. It's hard for me to be assertive without worrying about hurting the other person's feelings.             | <b>.65</b>  |
| IIP10. It's hard for me to feel comfortable around other people.  | <b>.63</b>  |
| MP17. Even when I do something very carefully, I often feel that it is not quite right.                         | <b>.63</b>  |
| IIP31. I try to please other people too much.   | <b>.63</b>  |
| IIP17. It's hard for me to ignore criticism from other people.  | <b>.62</b>  |
| AEQ9. I strive to keep a smile on my face in order to convince others I am happier than I really am.            | <b>.62</b>  |
| AEQ11. I'd like to talk about my problems with others, but at times I just can't                                | <b>.62</b>  |
| AEQ10. I try to keep my deepest fears and feelings hidden; but at times I'd like to open up to others.          | <b>.62</b>  |
| IIP25. It's hard for me to be self-confident when I am with other people  | <b>.62</b>  |
| MP25. If I do not do well all the time, people will not respect me.   | <b>.61</b>  |
| AEQ28. After I express anger at someone, it bothers me for a long time.   | <b>.61</b>  |
| AEQ23. I try to suppress my anger, but I would like other people to know how I feel.                            | <b>.60</b>  |
| MP34. I strive to keep a smile on my face in order to convince others I am happier than I really am.            | <b>.59</b>  |
| AEQ22. I would like to be more spontaneous in my emotional reactions but I just can't seem to do it             | <b>.59</b>  |
| MP13. If someone does a task at work/school better than I, then I feel like I                                   | <b>.59</b>  |

|        |   |            |
|--------|---|------------|
|        | failed the whole task.  |            |
| IIP44. | I feel competitive even when the situation does not call for it.  | <b>.58</b> |
| MP23.  | If I do not do as well as other people, it means I am an inferior human being.  | <b>.56</b> |
| PNS1.  | It upsets me to go into a situation without knowing what I can expect from it.  | <b>.55</b> |
| AEQ17. | Often I find that I am not able to tell others how much they really mean to me.   | <b>.55</b> |
| MP9.   | If I fail at work/school, I am a failure as a person.   | <b>.55</b> |
| IIP9.  | It's hard for me to socialize with other people   | <b>.55</b> |
| AEQ7.  | I try not to worry others, even though sometimes they should know the truth.  | <b>.53</b> |
| AEQ6.  | I would like to express my affection more physically but am afraid others will get the wrong impression.                  | <b>.52</b> |
| IIP28. | I get irritated or annoyed too easily.  | <b>.50</b> |
| AEQ26. | I feel guilty after I have expressed anger to someone.  | <b>.50</b> |
| IIP3.  | It's hard for me to join in on groups.  | <b>.50</b> |
| AEQ19. | I would like to express my disappointment when things don't go as well as planned, but I don't want to appear vulnerable. | <b>.50</b> |
| MP33.  | It takes me a long time to do something "right."  | <b>.49</b> |
| AEQ14. | I try to show people I love them, although at times I am afraid that it may make me appear weak or too sensitive.         | <b>.48</b> |
| PNS7.  | I don't like situations that are uncertain.   | <b>.48</b> |
| MP32.  | I tend to get behind in my work because I repeat things over and over.  | <b>.45</b> |
| MP18.  | I hate being less than the best at things.  | <b>.45</b> |
| MP10.  | I should be upset if I make a mistake.  | <b>.44</b> |
| AEQ18. | I want to tell someone when I love them, but it is difficult to find the right words.                                     | <b>.44</b> |
| PNS2.  | I'm not bothered by things that interrupt my daily routine.   | <b>.43</b> |
| IIP32. | I feel attacked by other people too much.   | <b>.43</b> |

---

### **Dissemination Statement**

In order to benefit a wide audience of service users, mental health professionals, academics and the general public, the intended dissemination of the research includes:

1. Submission for publication to the APA journal 'Abnormal Psychology', which has been selected as a high-impact journal, publishing a range of research in the broad field of abnormal behaviour, its determinants, and its correlates in this area. This journal has a target audience of researchers, psychologists, psychiatrists, and other mental health professionals. Submissions to alternative journals will be made if required.
2. Poster presentation at a UK conference that will include an audience of mental health professionals, NHS stakeholders etc.
3. A summary of the findings will be provided to any participants who request to be informed and will contain a reference to any publications resulting from the study.
4. A presentation to trainee clinical psychologists and research supervisors at the University of Exeter.



